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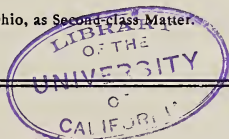
Cleanings in Bee Culture



A. I. ROOT AND HIS RHODODENDRON IN FULL BLOOM.

Published by The A. I. Root Co., Medina, Ohio, U. S. A.

Entered at the Postoffice, Medina, Ohio, as Second-class Matter.



Vol. XXXVI

AUGUST 1, 1908

No. 15

SENT ON APPROVAL

To Responsible People

LAUGHLIN FOUNTAIN PEN



AND

RED GEM

The Ink Pencil

To test the merits of
**Gleanings in Bee
Culture** as an advertising
medium, we offer you your choice of

**THESE THREE
POPULAR STYLES
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\$ 1.00
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EVERY pen guaranteed full 14K Solid Gold. Cut on right hand, our new Non-breakable Transparent, a pen in which you can **always see** the quantity of ink in the holder. We guarantee this holder and cap against breakage from any cause whatsoever, accident or otherwise. Cut on left, our Standard Opaque (black) Holder; either of these two styles plain or engraved as preferred.

To show our confidence in the Laughlin Fountain Pen, you may try it a week, if you do not find it as represented, a better value than you can secure for **three times this special price** in any other make, if not entirely satisfactory in every respect, return it and we will send you \$1.10 for it. The extra 10 cents is for your trouble in writing us. (Two customers in 3000 have asked for return of money.)

Cut in center is our famous and popular Red Gem—the Ink Pencil, a complete leak-proof triumph—may be carried in any position in any pocket or shopping-bag; writes at any angle at first touch. Platinum (spring) feed, Iridium point, polished vulcanized rubber case, terracotta finish. Retails everywhere for \$2.50.

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NO CHARGE TO DEPOTS
FOR DRAYAGE.

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Fancy white clover, EXTRACTED
and COMB. State how it is put up, and
price expected delivered in Cincinnati.

C. H. W. WEBER

Office and Salesroom, 2146-2148 Central Ave.
Warehouse, Freeman and Central Avenue.

CINCINNATI,

..

..

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OHIO

Honey Markets.

The prices listed below are intended to represent, as nearly as possible, the average market prices at which honey and beeswax are selling at the time of the report in the city mentioned. Unless otherwise stated, this is the price at which sales are being made by commission merchants or by producers direct to the retail merchant. When sales are made by commission merchants, the usual commission (from five to ten per cent), cartage, and freight will be deducted, and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage, and other charges, are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

EASTERN GRADING-RULES FOR COMB HONEY.

FANCY.—All sections well filled, combs straight, firmly attached to all four sides, the combs unsoiled by travel-stain or otherwise; all the cells sealed except an occasional one, the outside surface of the wood well scraped of propolis.

A No. 1.—All sections well filled except the row of cells next to the wood; combs straight; one-eighth part of comb surface soiled, or the entire surface slightly soiled; the outside surface of the wood well scraped of propolis.

No. 1.—All sections well filled except the row of cells next to the wood; combs comparatively even; one-eighth part of comb surface soiled, or the entire surface slightly soiled.

No. 2.—Three-fourths of the total surface must be filled and sealed.

No. 3.—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

NEW COMB-HONEY GRADING-RULES ADOPTED BY THE COLORADO STATE BEE-KEEPERS' ASSOCIATION.

No. 1 WHITE.—Sections to be well filled and evenly capped except the outside row, next to the wood; honey white or slightly amber, comb and cappings white and not projecting beyond the wood; wood to be well cleaned; cases of separated honey to average 21 pounds net per case of 24 sections, no section in this grade to weigh less than 13½ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

No. 1 LIGHT AMBER.—Sections to be well filled and evenly capped, except the outside row, next to the wood; honey white or light amber; comb and cappings from white to off color, but not dark; comb not projecting beyond the wood; wood to be well cleaned.

Cases of separated honey to average 21 pounds net per case of 24 sections; no section in this grade to weigh less than 13½ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

No. 2.—This includes all white honey, and amber honey not included in the above grades; sections to be fairly well filled and capped, no more than 25 uncapped cells, exclusive of outside row, permitted in this grade; wood to be well cleaned, no section in this grade to weigh less than 12 ounces.

Cases of separated honey to average not less than 19 pounds net.

Cases of half-separated honey to average not less than 20 lbs. net per case of 24 sections.

Cases of unseparated honey to average not less than 21 lbs. net per case of 24 sections.

SAN FRANCISCO.—Several cars of new honey have been sent east from El Centro, and practically all of the Orange Co. extracted honey has been bought by a San Francisco packer. The prices to growers on new crop extracted range from 5 to 6 cents. The crop in nearly all sections is very short, and prices are fully as firm as they have been for several months past. Packers prices, as quoted below, show no change. Water-white comb, 16 to 17; white, 16; water-white, extracted, 8 to 8½; light amber, 7 to 7½; dark amber, 5½ to 5¾; candied, 5¼ to 5½.

July 18.

Pacific Rural Press.

BUFFALO.—The season for old honey is about closed. Very little is on the market not sold. But little new honey is arriving. The trade will probably buy sparingly until the weather is cooler and honey becomes more plentiful. No. 1 to fancy white clover, 16 to 17; No. 2 will not sell now.

July 17.

W. C. TOWNSEND.

CINCINNATI.—Quite a number of shipments of fine honey are now coming in, but prices are ruling lower than last season. In fact, we have never seen buyers so disinterested in a new crop of honey. We are offering the choicest at 14 and 15 by the single case. The demand for extracted honey is dull, which we attribute to the lack of activity in the business world; and, secondly, this is one of the dullest months in the year. We are selling amber extracted at 5½ to 6½ according to quality and quantity purchased. Fancy white extracted honey brings from 7 to 9 cts. Beeswax is somewhat easier, and we are paying 27 cts. cash and 29 in trade, delivered here. The above quotations on honey are the prices at which we sell—not what we are paying.

July 21.

THE FRED W. MUTH CO., Cincinnati, O.

ZANESVILLE.—Some honey is arriving on this market from local producers, but practically none from outside except Cuban. For clover honey jobbers are offering 14 cts. for fancy, and 13 for No. 1. The wholesale price is scarcely established. There is a much improved demand for native honey, but scarcely any for the imported. Extracted in small retail packages is moving slowly. For good quality of beeswax I offer 30 cts. in exchange for beeswax.

July 22.

EDMUND W. PIRCE,
Zanesville, O.

CINCINNATI.—There is an abundance of comb honey arriving daily, but no demand for it. We can give no other reason than, perhaps, hard times. People do without it. There is a fair demand for extracted white clover, which is selling at 7½ to 8. Amber in barrels is selling at 5½ to 6. Beeswax, light demand, is selling at 33.

July 22.

C. H. W. WEBER, Cincinnati, O.

INDIANAPOLIS.—The demand is good, but prices very irregular and unsettled. Producers are offering fancy white comb as low as 12 cts., and white-clover extracted in five-gallon cans as low as 7 cts. Amber grades are not mentioned here at present. Beeswax remains steady at 28 cts. cash and 30 in exchange for merchandise.

Indianapolis, July 18.

WALTER S. POWDER.

PHILADELPHIA.—This has been unquestionably the greatest honey season we have had in the East for a quarter of a century. The first lot, of 3000 lbs., arrived in Philadelphia on the river boat yesterday, and was offered at 10½ for the amber and 12½ for white, no other sales being made. The market is not as yet established; but we are looking for low prices. Beeswax is firm at 28.

July 24.

WM. A. SELSER, Philadelphia, Pa.

KANSAS CITY.—The honey market has been somewhat slow on account of the abundance of cheap fruit. Fancy white comb honey in 24-section cases is selling for \$3.35. Now and then a few cases go for \$3.50; but \$3.35 is the ruling price. Amber and other off grades are selling as low as \$2.75. We do not look for much improvement in the honey market until after the first of September. White extracted is selling at 7½.

July 23.

C. C. CLEMENS & CO.

DENVER.—We are entirely closed out of comb honey, and ready to receive consignments of new-crop comb, the first arrivals of which should move quickly at good prices if fancy stock. Extracted honey is in fair demand. We quote white extracted, 8 to 9; light amber and strained, 6¼ to 7½. We pay 25 for clean yellow wax delivered here.

July 23.

THE COLORADO HONEY-PRODUCERS' ASS'N,
Denver, June 23. F. Rauchfuss, Manager.

BOSTON.—Fancy white comb honey, 17; No. 1 white comb, 16; California white sage, extracted, 9; California light amber, 8; Southern honey in barrels, slow sale, 5 to 6.

July 1.

BLAKE-LEE CO., Boston, Mass.

LIVERPOOL.—Honey is steady. Market prices are fully maintained. Chilean extracted, 4 to 6; Peruvian, 3½ to 5½; California, 7 to 9; Jamaican, 4 to 5; Haiti, 5½ to 6. Beeswax is quoted, African, 29; American, 30 to 33; West Indian, 29 to 32; Chilean, 30 to 36; Peru, 33 to 34; Jamaican, 33 to 34.

July 18.

TAYLOR & CO., 7 Tithebarn St.

A FULL LINE of Bee-keepers' Supplies. My patent Section-machine at half-price. A new queen-nursery, and queen-rearing outfit. Queens from imported Italians, Caucasians, Carniolans; and Adel queens. Send for catalog and price list. **Chas. Mondeng,** 160 Newton Ave. N., Minneapolis, Minn.

Our Wants are Unlimited.

Mail us a sample
of your

EXTRACTED HONEY

either amber or fancy; and name your lowest cash price per pound delivered here. We buy every time the price justifies, no matter if it is one barrel or a car load, and remit the same day shipment comes to hand.

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THE BUSY BEE-MEN
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will find Dallas the best point from which to purchase supplies. We have a carload of **ROOT'S GOODS IN STOCK**, and sell them at the Factory Prices. Don't forget that we can furnish any thing in the way of Field or Garden Seeds, Plants, and Poultry Supplies. Our large illustrated catalog for 1908 free on application. Mention **GLEANINGS** when you write.

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to all points in the South and
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Send for our free illustrated catalog of
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Beeswax Wanted.

Blanke & Hauk Supply Co.

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Choice queens, 75 cts. each; six for \$4.00, or \$7.50 a dozen.
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Are sending out fine Italian queens at the following prices:
Untested, \$1; 3, \$2.50; 12, \$9.00. Tested, \$2.00; 3, \$5.00; 12, \$18.00. Breeders, \$2.50, \$5.00, and \$10.00. Send for circular.
BORODINO, ONONDAGA CO., N. Y.



**DANIEL WURTH'S
QUEENS.**

**Golden Five-banded
and Three-banded.**

Finest that can be had at any price; large and prolific. Have had 35 years' experience. Having moved from Pitkin, my address is Fayetteville, Ark., R. F. D. box 5, A.

Untested, \$.75 each; 6, \$4.35
Tested, 1.00 each; 6, 5.50

Carniolan Queens

from imported mother, mated to drones from imported mother in yard remote from other bees, \$1.00 each; \$9.00 per doz. Mismatched queens, Carniolan and Banat, 50 cts. each; \$5.00 per doz.
E. H. HAFFORD, : Fennville, Mich.

GLEANINGS IN BEE CULTURE

Established
1873.
Circulation
32,000.
72 pages.
Semi-
monthly.

Devoted to Bees, Honey, and Home Interests.

Published by THE A. I. ROOT CO., Medina, Ohio.
J. T. CALVERT, Business Manager.

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When paid
in advance:
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5 years, \$3.00.

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**both
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Samples free. Special prices on quantities.
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Remember we sell at Root's factory prices, and offer liberal discounts now.

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565-7.W.7th St., Des Moines, Ia.

GLEANINGS IN BEE CULTURE

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OHIO STATE FAIR PREMIUM LIST.

The following is a list of premiums to be awarded at the Ohio State Fair, Columbus, August 31 and Sept. 1, 2, 3, 4, on bees and honey to be exhibited in the farm-product department. Bees are to be shown in closed hives. Displays must not include honey entered for any other premiums.

Display of comb honey—appearance, quality, and condition for market to govern.....	\$15.00	\$8.00
Case of 24 sections white-clover comb honey—general appearance, filling, and capping to govern.....	3.00	2.00
Case of 24 sections of basswood comb honey.....	3.00	2.00
Case of 24 sections of comb honey from fall flowers.....	3.00	2.00
Display of extracted honey—quantity, quality, condition for market, and arrangement to govern.....	15.00	8.00
Six jars of extracted honey, 3-lb. (quart) size.....	3.00	2.00
Six jars of extracted honey, 1½ lbs. (pt.).....	2.00	1.00
Display of candied honey, not less than 25 lbs.....	5.00	3.00
Display of beeswax.....	2.00	1.00
Nucleus of Italian bees in observatory hive.....	3.00	2.00
Nucleus of Carniolan bees as above.....	3.00	2.00
Display of comb foundation.....	2.00	1.00
Largest and finest display of honey, comb and extracted—quantity, quality, and condition for market to govern.....	20.00	10.00

T. L. CALVERT, Sec., Columbus, O.

NEWCASTLE, DEL., COUNTY FAIR, SEPT. 1—4.

Dr. Joel S. Gillilan, Supt., Newark; E. M. Miller, assistant, Wilmington, Del. Neither of the above will compete.

Best display of comb honey, not less than 30 lbs., \$5.00; second prize, \$2.00; ditto extracted honey, \$5.00; second, \$2.00. Best dozen sections of comb honey, \$1.00; second, 50 cents. Best sample of extracted honey, not less than 10 lbs., \$1.00; second, 50 cents. Best display of beeswax, 50 cents; second, 25 cents.

Bees.—Best colony shown in observatory hive, Italian, \$3.00; second, \$1.50; Caucasian, Carniolan, black, and hybrids, the same.

Best display of bees in observatory hives, not less than three, \$10.00; second, \$3.00.

Best display of bee-supplies, \$2.00; second, \$1.00.

4%

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veil with silk tulle front.

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for \$1.15, including a bee-veil with silk
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M. H. HUNT & SON
LANSING, MICH.

Extracted Honey Wanted

We are always in the
market.

If you have any to sell, mail
small average sample to

**NATIONAL
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HONEY

of the different grades and kinds.

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1 untested, 75c; 12, \$7.50. 1 tested, \$1.00; 12, \$11.00.

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Nuclei, full colonies, and bees by the pound at low prices.

CHAS. KOEPPEN, Fredericksburg, Va.

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Minnesota Bee Supply Co.	Koeppen, Charles.	921	Dadant & Sons.	970	American Bee-keeper.	970
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Nebel, J. & Son.	Littlefield, W. J.	962	Home-fasteners.		Inland Poultry Journal.	959
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STATE FAIR OF OKLAHOMA, OCT. 1 TO 10, AT OKLAHOMA CITY, APIARY DEPARTMENT PREMIUM LIST.

F. W. Van DeMark, Superintendent.

Open to the world.

1. Entries close in this department September 30, 1908, at 6 o'clock p. m., and all articles entered for exhibition must be in place at that time.

2. No premiums will be awarded in this department except as definitely stated in this premium list.

3. The judge will be governed by the code of rules adopted by the Illinois Bee-keepers' Association.

4. Two hundred and fifty pounds only will receive full score for comb and extracted honey, and 50 lbs. in candied honey; 50 lbs. beeswax will receive full score for quantity in display of beeswax.

5. Only one entry will be allowed each exhibitor for any one premium.

6. No article can be removed until the close of the fair, except upon written permission of the president.

7. The superintendent will be on the grounds for a week previous to the fair, prepared to wait upon exhibitors as they arrive.

8. The superintendent must check the entries shown in the entry-books in each ring, with the exhibits present, and so mark the entry-books that they will show what exhibits were passed on by the judges.

	1st	2d	3d
Display of comb honey	\$15	\$10	\$5
Collection of labeled cases containing 12 or more lbs. of white honey from different flowers. Five or more cases	10	6	4
Case of sweet-clover honey, 12 or more lbs.	4	3	2
Case of cotton honey, 12 or more lbs.	4	3	2
Case of sumac honey, 12 or more lbs.	4	3	2
Case of dark amber honey, 12 or more lbs.	4	3	2
Display of extracted honey	15	10	5
Display of samples of white extracted honey	4	3	2
Display of samples of amber extracted honey	4	3	2
Sealed comb for extracting	3	2	1
Display of candied honey	10	8	5

Display of beeswax	10	6	4
Display of designs in beeswax	10	6	4
Display of designs in honey	10	6	4
One frame of golden Italian bees in observatory hive	4	3	2
One frame of dark Italian bees in observatory hive	4	3	2
One frame of native bees in observatory hive	4	3	2

MICHIGAN STATE FAIR AT DETROIT, SEPT. 3 TO 11. PREMIUM LIST FOR APIARIAN DEPARTMENT.

F. B. Ransford, Caro, Superintendent.

All strains of bees to be plainly labeled and placed in observatory hives, appearance of hives to be considered.

The exhibition of all kinds of implements and bee-keepers' supplies is invited, for which space will be provided, as far as possible, at ten cents per square foot for space used.

Diploma given for best exhibit.

	1st	2d	3d
Italian bees and queens in single-comb observatory hives	\$8.00	\$5.00	\$3.00
Carniolan bees and queen in single-comb observatory hives	8.00	5.00	3.00
Caucasian bees and queen in single-comb observatory hives	8.00	5.00	3.00
Largest and best display of bees of various races in observatory hives	10.00	6.00	4.00
Largest display of queens of various races in mailing-cages	5.00	3.00	2.00
Best case white comb honey	3.00	2.00	1.00
Best case light-amber comb honey	2.50	1.50	1.00
Best and largest display comb honey	10.00	6.00	4.00
Best display of special designs	3.00	2.00	1.00
Best dozen jars of white extracted honey	2.50	1.50	1.00
Best dozen jars of light-amber extracted honey	2.00	1.00	.50
Best and largest display of extracted honey	8.00	5.00	3.00
Best display of extracted honey in granulated form	3.00	2.00	1.00
Best 10 lbs. yellow beeswax	2.00	1.00	.50
Best and largest display of beeswax	5.00	3.00	2.00
Best display special designs in beeswax	3.00	2.00	1.00
Best display of honey-producing plants, mounted	3.00	2.00	1.00
Best display of fruits preserved in honey	3.00	2.00	1.00
Most instructive display of apiarian products and of the various uses made of honey and beeswax	15.00	10.00	5.00

RASPBERRY HONEY

My brother and myself have five apiaries in the wild-red-raspberry region of Northern Michigan, where we are harvesting a crop of unusually fine quality. Not a pound is extracted until it has been thoroughly ripened and sealed over, and it is thick, rich, and delicious. We are putting it up in bright new 60-lb. tin cans, two in a case (the ends of the cases are bound with hoop iron to protect them in shipment); and offering it at ten cents a pound—\$12.00 for a case of two cans. To some this may seem a trifle high in price; but it must be remembered that it costs more to produce such honey as this, and it is worth more;

besides, to a certain extent it is a novelty. It is *raspberry honey*—a honey with a flavor all its own—a flavor that smacks of the wild red raspberry of the woods. It is the honey that won the gold medal at the Jamestown Exposition against all other honeys from all over the United States. The dealer who builds up a trade for this honey can hold it against all odds.

If not acquainted with this honey, send me ten cents and I'll mail you a generous sample, and the ten cents may apply on the first order that you send.

W. Z. HUTCHINSON, Flint, Mich.

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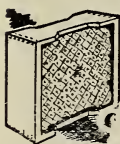
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will be a profitable industry this season.

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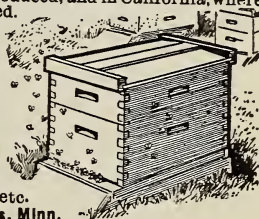
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Deer Park, Toronto, Ontario, Canada
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APICULTEURS

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The list of books below are for the most part by writers of well-known literary ability, and are very interesting indeed, and are greatly valued by bee-keepers and others for their literary merit, and the popular style in which bee-keeping is depicted and we are very glad to have the opportunity to offer them to bee-keepers and others. The description of each work will give a fair idea of the same, but a pamphlet giving an extended view of these and the practical books on bee culture listed in the preceding columns will be sent on application.

THE HONEY-MAKERS. By Miss Margaret W. Morley. This is the story of the life of the bee, told in very interesting style—how it lives, gathers honey, and all about it. While clothing the general subject with an air of poetry, it seems to be entirely within the limits of known facts while attempting to deal with them. We believe it will give all thoughtful bee-keepers a greater liking for their business to read it. Probably it has more to do with the curious traditions connected with bees than any other book of the kind. Price \$1.50 postpaid; by freight or express, 10 cents less.

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THE BEE PEOPLE. A book on bees, especially for children, from the pen of Margaret W. Morley. Including its elegant illustrations, it is, in some respects, the prettiest bee-book in existence. It has 177 pages, very coarse print, the reading being ingeniously interwoven with the illustrations showing the parts of the bee. The story of bee-life is told in a fascinating manner, and is well calculated to get the casual reader, as well as children, interested in this useful insect. The cuts go just enough into detail to explain fully the lesson taught, without confusing the mind with other things. We think the book well worthy a place in every bee-keeper's home. Fittingly designed cover. Price \$1.50 postpaid; by freight or express, deduct 10 cents.

THE SWARM. By Maurice Maeterlinck, author of *The Life of the Bee*. This is a book of 113 pages, prettily bound in cloth. Price \$1.20 postpaid; by freight or express, 10 cents less.

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There are a good many bee-keepers who will admit they ought to know more about the anatomy of the bee; but owing to the difficulties surrounding the subject they have thus far been unable to acquaint themselves in the least with the marvelous structure of the honey-bee. For such persons there has been constructed a *postboard* bee, showing all the internal of a queen and also a drone in a manner that leaves little to be desired. With the aid of the key, any intelligent person may soon become well acquainted with the anatomy of the bee and the proper name of each organ. First there is a life-like representation of the queen and drone (separately). By lifting the outer covering the breathing apparatus and digestive system are unfolded; lifting again there will be found the reproductive system and poison-glands; and by again lifting, the nervous system is clearly outlined. Every thing is as clear as daylight, as each part and organ is numbered, and the key which we send gives the correct scientific name of the same. Our models of the queen measure 6½ inches, while those of the drone are 5½ inches. We can furnish the two with a key for 75 c. postpaid; or either one at 50 c. postpaid.

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By the Bee Crank.

"For our troubles," the bankers exclaim,
 "It's Teddy who must bear the blame."
 "But that's nothing to me,"
 Says the industrious bee;
 "I'm hustling this year just the same."



The bee-men, the fruit-men, and the farmers are not doing much talking just now, because they are too busy. When folks are busy they can't afford to have to worry about delays in getting the materials to work with. My business is so systematized that orders for all standard goods are filled just as promptly during the rush season as during the dull sea-

son, and you can avoid complications by placing your rush orders here. Just at present I am shipping immense quantities of shipping-cases, honey-jars, sections, and smokers. I have the full line of Root quality goods, and they go at factory prices.

Hoosier-Italian queens on return train for 75 cents, untested. Select untested, one dollar. Reared during the warm honey-flow, and nothing could be nicer.

I can use more beeswax, and am paying 28 cents spot cash or 30 in trade, delivered here.

Walter S. Pouder,

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GLEANINGS IN BEE CULTURE

Published by The A. I. Root Co., Medina, Ohio

H. H. ROOT, Assistant Editor
A. I. ROOT, Editor Home Department

E. R. ROOT, Editor

A. L. BOYDEN, Advertising Manager
J. T. CALVERT, Business Manager

VOL. XXXVI

AUGUST 1, 1908

NO. 15

STRAY STRAWS

DR. C. C. MILLER

DID YOU NOTICE in the platforms of the two great political parties any thing said about the greatest public question of the day, the saloon question?

HERMAPHRODITE, that's what the queen-bee is — *Bee-keepers' Review*, 205. Doesn't that go pretty well with the "sting trowel" and the "umbilical cord"?

I'VE ALWAYS supposed it was cheaper to buy new plain separators than to clean old ones. I'm not so sure of it after reading E. F. Atwater's way of cleaning them, p. 878.

LIKELY you are right, Mr. Editor, p. 868, that my tags were oil-soaked, and not paraffine-boiled. Allee samee, I hope this country will some day catch up with Germany on the tag question.

BASSWOOD flow (very little basswood here) lasted 11 days. [It did not amount to much here. In our locality a good year for the clovers means a poor one for basswoods. But this is not invariably so.—ED.]

BRO. DOOLITTLE gives sound advice, p. 871, about mastering "awfully cross bees," only for one thing; he doesn't tell us how he'd do if he wanted to find a queen; for after pounding them into subjection his chances would be small for finding a queen on that trip.

LOUIS SCHOLL, do we understand from what you say, p. 872, that you have tried bottom-bars with only $\frac{1}{4}$ inch between them, and that the space was filled with glue? I've supposed this is a gluey locality, and I've never found that space filled with glue—never once.

REFERRING to the question whether abundance of stores in sight has a stimulating effect on bees, Editor Hill says, *American Bee-keeper*, 190, "Mr. Hand contends that the influence would be the same on the bees as that of bins full of wheat on a flock of hens. It should be noted, however, that it would probably make some difference in results as to whether the bees or the hens had access to the surplus-food supply. Food locked up in the granary would hardly influence the egg-laying of the flock, nor would tons of honey stacked away in the loft of the house have any stimulating effect on the bees in the hive."

HEATING honey for extracting late in the season is a fine thing; but Allen Latham gives a needed caution, *Review*, 214. Late in November he had the honey stacked in an old hen-house, paroid-covered; ran the lamp slowly Friday, faster at night, and still faster Saturday morning.

The sun came out warm, and he says that, on opening the door at noon, he found all the top supers had melted down, and the honey was drizzling all over all the supers in the place. Some sixty combs melted down, and 100 to 200 pounds of honey was lost. Even then the lower tiers had not become nearly warm enough to extract.

J. E. HAND, p. 881, seems to think that natural supersedure and deterioration go hand in hand. Did you ever stop to think, friend Hand, that, in the case of bees not under man's control, unless the whole colony dies, *every queen before her death provides for a successor by natural supersedure*? Do you think an all-wise Providence would thus deliberately plan for deterioration? And if that deterioration has been going on ever since creation, ought not wild bees to be about deteriorated out of existence? [We find supersedure cells generally quite equal to those reared during the swarming impulse. But cells reared under ordinary conditions are much inferior to either.—ED.]

MORE THAN one egg in a queen-cell is a very reliable sign of laying workers. But lately I found five eggs in a queen-cell in a nucleus with an old laying queen. [If you were raising queens in baby nuclei, doctor, you would find that, when the queen had laid every available cell full of eggs, she will begin to stick in two or three and even five eggs to the cell. This is a very common observation in our queen-rearing work; and, of course, under those conditions we do not expect any laying workers. But we may safely say that, when there is plenty of egg-laying room, cells empty, and other cells containing a plurality of eggs, there is probably a laying worker or drone-layer in the hive.—ED.]

H. C. DANIELS, you ask us to take a backward look, p. 894, to see if we can not see bad results from having bees in the shade. When I look back I see the very best results from bees under good apple-tree shade. [Here too; and, what is more, we believe that bees are a little more quiet in the shade than out in the hot sun; or perhaps we should put it this way: When hives are obscured by shrubbery, trees, and the like, cross bees are not quite as likely to follow one as where there is clear, unobstructed vision. For example, before our grapevines leave out, robbers and cross bees will follow one much more persistently than afterward. Of course, it might be said that, when the vines are in full leaf, then is the time when the bees are approaching the honey-flow or are in it. But there is a condition after the honey-flow in August, in our locality, that is far worse for robbers than in that season of the year prior to the full leaf of the grapevines. But as has been pointed out by others, we believe that too dense

a shade of a big tree is detrimental. While it is very comfortable for the apiarist, the bees do not spring and summer quite so well.—Ed.]

YOU ASK, Mr. Editor, p. 867, whether my yellow bees (Italians) swarm more than my "hybrids and blacks," and say, "If all of them swarm, then we should attribute this swarming to the peculiarity of the season rather than to the yellow blood." I have no blacks. I have made special effort in the past two years to get in Italian blood, and a good number of my colonies are full-blood or half-blood Italians. The rest are of my old stock of hybrids. I have an impression that the season is the worst for swarming I ever experienced. But all have not swarmed. There are six colonies that have never had an egg in a queen-cell; three had an egg in a queen-cell just once, and when the egg was destroyed the offense was not repeated; four had a cell or two occupied on two different occasions, but have gone on since without starting cells again. Except these thirteen, every colony has swarmed, or would have swarmed, so far as I can judge, if special treatment had not been given. These thirteen were all of the old hybrid stock. Yes, emphatically my yellow bees swarm more than my old hybrid stock. But that is no proof that Italians swarm more than hybrids. Please remember that for years I have been breeding from bees that showed least inclination to swarm, paying no regard to color (more fool I), and they approximate non-swarming, not because they are hybrids, but because of special selection; and if I had held to pure Italians all the while I might just as well have had a strain of pure Italians little given to swarming. The one important point in the case is that there is some proof—quite a little I think—that by continued selection one can approximate a non-swarming strain. [As you say, the whole point is that you have attempted to breed out the swarming tendency, and that the same effort applied to pure Italians would probably have been productive of the same results.—Ed.]

EDITORIAL

By E. R. Root.

A GOOD SUGGESTION.

THE following note from Secretary Hutchinson will explain itself:

E. E. Pressler, of Williamsport, Pa., stamps upon his stationery and price lists the following: "Will be at Detroit Oct. 12." Why couldn't all of us who send out much mail get a rubber stamp and do the same? It would advertise the National convention in a most telling manner.

CANE OR BEET SUGAR IN KANSAS.

WE notice by the *American Grocer* that the Kansas Board of Health, which has the enforcement of the pure-food laws of that State, says that grocers who sell beet sugar for cane will be subject to prosecution. We wish this ruling might be general all through the United States, as it is impossible now to know what one is buying—cane or beet sugar. We always try to get cane exclusively for feeding; but the large sugar-refiners will make no statement as to what they are sending, other than that it is granulated sugar.

AN OLD TIMER.

WE had a call last week from F. H. Cyrenius, of Oswego, N. Y. While our friend is not one of the "old boys," he is an old-timer. He began the culture of bees when he was only about twelve years old, and has been an ardent student of them ever since. He is considerable of an inventor as well as a practical man in the field. He has promised to give us some items for publication.

IS BEESWAX DIGESTIBLE?

THERE has been some little discussion among our exchanges as to whether beeswax is digestible. The fact that most hydro-carbons, including fats, oils, and the like, are digestible, lends color to the theory that beeswax, also a hydro-carbon, may be partly so; at least, Mr. D. F. Robinson, in the *Canadian Bee Journal*, last issue, presents some pretty good arguments, supported by the authority of experts on food, in favor of the proposition.

A BEE-VEIL WITH HOLES IN IT.

By the way, did you ever notice that a bee-veil with a few holes in it is almost as good a protection from stings as one with no holes? Even if a bee should happen to get through an opening, it finds itself a prisoner and is then more concerned about getting out than carrying out its designs of vengeance. When we talk about holes we mean small ones, say a quarter or half an inch in diameter. Larger ones, of course, will let in a direct onslaught of bees, and then they strike their javelins without stopping to argue the question.

GOVERNMENT OFFICIALS STUDYING FOUL BROOD IN CALIFORNIA.

DR. E. F. PHILLIPS and Dr. White, the Bacteriologist, are just now on the Pacific coast doing some field-work experiments on bee diseases. They are gathering data, which, no doubt will be presented to the public in the form of a bulletin. In our last issue we spoke of what the Bureau is doing in Massachusetts and the bordering States. It is a pleasure to know that our apicultural investigators are giving close and careful attention to this subject of bee diseases.

THE IMPROVEMENTS IN OUR EXCHANGES.

It is a real pleasure to see the gradual and steady improvement in our apicultural exchanges. Our contemporary to the north of us, the *Canadian Bee Journal*, has shown new life since it went into the hands of the new managers. Away to the south of us in Florida the *American Bee-keeper* is giving us once a month a great deal of practical and valuable matter. The *American Bee Journal*, still the "Old Reliable," is furnishing a large amount of interesting as well as valuable matter, with many illustrations; and last, but not least, the *Bee-keepers' Review* is showing the enthusiasm of an editor who is fresh from the field; for Mr. Hutchinson is a honey-producer. We wish all of our exchanges success.

THE FOLLY OF MARKETING COMB HONEY TOO LATE.

LET us not again repeat the folly of last year, when thousands and thousands of pounds of comb honey were dumped on the market after the selling season. Much of that is still in the

market candied and has a slow sale. This is most unfortunate just now.

Along in last October and November there was a crying demand for honey; but it could not be had for love or money. After the demand was well nigh over, and hard times were beginning to come on, along came this honey. If it had all been cleaned up it would be much better for the market.

A BEE-ESCAPE BOARD IN TWO PIECES TO SAVE LIFTING OF HEAVY SUPERS.

MR. F. G. MARBACH, foreman of our machine-shop, suggests making a honey-board in two pieces. With a hive-tool pry up one end of the supers and slip under the narrow piece. The other end of the super may now be lifted up just enough to provide proper clearance for the other piece, which is now inserted far enough to meet the first piece. His idea is to save all lifting by prying one end of the super at a time with a hive-tool. Any old honey-board may be fixed in this way by sawing off one end, the small one not being more than one inch or so wide. Some of our bee-keeping friends can try it and see how they like it.

FEEDERS NOT WORTH PATENTING.

WE are constantly receiving designs for some new style of feeder on which the sender has applied for a patent, adding that he would like to know how much royalty we would be willing to pay. As we have said repeatedly we say again, we would not give one cent for a patent on any kind of feeder, because there are too many good unpatented feeders, and any one who gets out a patent on a feeder is wasting his good money for nothing. We believe in patents, own a number, and are paying royalties on others. Hundreds of patents have been granted on feeders; but we do not know of one that has earned its owner a cent.

CAUCASIANS HARDY.

IN setting forth some of the desirable and undesirable traits of these bees in our last issue, page 869, we failed to mention one point in their favor; and that is, their ability to stand wear and tear. Some time ago we made up a colony of pure Italians and pure Caucasians, mixing the two races in one hive. For the first month or two there was about an equal number of both races in the colony. After that, the old yellow bees began to disappear, while the old Caucasians continued to remain in strong force. They are good for springing and wintering. Our experience has abundantly shown that; but we couldn't and wouldn't stand their excessive swarming and bee-glue.

SENDING DISEASED BROOD THROUGH THE MAILS.

WE desire to caution our readers again when sending samples of suspected diseased brood to this office for diagnosis to wrap the specimen in paraffine paper, not in cotton batting, and put it in a stout wooden or tin box. Mark on the outside of the package the full name and address of the sender, and in the same mail be sure to send a letter giving full particulars. Specimens not having the mark and name of the sender will be burned without examination, and likewise all other specimens loosely or carelessly packed.

Another thing, do not use perfumery-boxes,

spice-boxes, or, last of all, tobacco or cigar boxes, to send brood in, because the odor so scents up the brood that satisfactory diagnosis is made difficult if not impossible.

We are perfectly willing to furnish information to our subscribers, but they in turn must observe proper precautions.

"WAX CRAFT."

THIS is the title of a new work in the hands of the printers, taking up fully its history, production, adulteration, and commercial value, by Thomas William Cowan, editor of the *British Bee Journal*, and author of the *British Bee-keepers' Guide*; and numerous other apicultural works,

Chapter I. is historical; chapter III. treats on wax-rendering, taking up all the various methods for accomplishing this by the aid of the sun, by artificial heat, through the medium of steam and hot water. Chapter V. has to do with the subject of refining and bleaching wax, removing impurities caused by the introduction of either mineral or vegetable waxes; commercial waxes, refining, etc. Chapter VI. deals with the adulteration of wax, the extent of it, the adulterants, with a list of the various kinds of waxes other than that made by the bees. Chapter VII. deals with the manufacture of comb foundation; chapter IX. with wax candles and tapers. Chapter XI. treats of the technical uses of wax.

No work of this kind has been published before, and we are of the opinion that it will fill a long-felt want without question. The size of the work is crown octavo. The price in paper covers is 2 shillings; in cloth, 3 shillings.

THE CHICAGO DRAINAGE CANAL AND THE SWEET CLOVER NOW GROWING ON ITS BANKS.

ON p. 940 is an article with engravings in regard to sweet clover on the banks of this great drainage canal. This reminds me that, on my return from California in the fall of 1903, I was greatly impressed with the piece of engineering as planned and carried out for that great canal. At the close of the article referred to above, we are told that they expended \$53,000,000. Well, there are places where the soil, stones, and gravel are piled up, to get it out of the way, in heaps that almost rival in size the *mountains of California*. At the time of my trip, railroads were constructed for the purpose of carrying this refuse material wherever it was wanted for filling in for railroading and other work. But I suppose it will be many years before these "hills and mountains" are entirely removed out of the way. The fact that sweet clover will take root and grow, and get sustenance from the air on such miscellaneous soils as those taken out at a great depth in the ground, is an additional proof of the great worth that it may have in making the most unpromising soil productive. This reminds me that the growth of sweet clover in the suburbs of Toledo is this year just wonderful. When the farming community all get to understand the way in which this plant does "missionary work" in restoring poor soils, we shall recognize what a wonderful gift to agriculture is this luxuriant sweet clover that has been so many times called by thoughtless people a "noxious weed."

A. I. R.

PRICES ON HONEY FOR 1908; WILL THEY BE LOWER THAN LAST YEAR?

THE flow of clover honey in the central-eastern States has been exceptionally heavy and of good quality; but this does not signify by any means that there has also been a great crop in other sections of the country. In some parts of New England the season has been good to poor. The same is true in parts of New York and Pennsylvania. In Ohio the flow has been remarkably good; and it has been fairly good in Michigan, Kentucky, Indiana, Illinois, and Wisconsin; in Iowa, fair to poor.

Some unfavorable reports come from Kansas and Nebraska. Missouri reports fair to good. In California the latest advices show generally a poor season except in the orange districts. Reports from Texas are a little more encouraging. Advices from Colorado are not as yet very definite as to what the season is to be.

We see no reason why the *general* market should take a slump; but the Chicago and New York markets, as well as those intervening, will probably have plenty of clover honey, and prices will necessarily be a trifle lower than last year. In Cleveland the buyers are very shy. They do not know what to offer. Along this line we quote from a private letter from one of the largest concerns in that city. As they had no knowledge that they were to be quoted we do not feel at liberty as yet to give their name.

We are not ready to make an offer on comb honey until we have further information from the section where we usually buy our honey. We are confident, however, that the price will be much lower than usual this season. The abundant fruit crop and general condition of the trade, which affects the line of luxuries most, are reasons for our thinking this, and the large crop of honey in Ohio, we are afraid, will prevent our selling much in sections where we have sold it before.

We wish to offer the suggestion that the large producers seek out markets where there have not been good crops, and *seek them early*. Be careful, also, to avoid a center that is being glutted. Do not, under any circumstances, send a large shipment without first making careful inquiries; and avoid sending to new houses.

It possibly may be advisable in some cases, with a well-known reliable house, to send on commission; but send only a small shipment at first; and it that goes well, try another one immediately.

GLEANINGS is always willing to co-operate to the end that bee-keepers may get the best prices obtainable; but it would be the height of folly for us to attempt to "bull" the market when the conditions would not support it; for any bee-keeper who waits for better prices will be likely to be disappointed in that he may have to accept less than his first offers. Along in September the market will become more stable, but not higher probably. The number of offerings at present is making the buyers somewhat cautious.

Later.—After writing the foregoing, the following from one of the best and most reliable commission houses in Chicago has been received. As this has a direct bearing on prices we are glad to give it right here:

Mr. Root.—The honey yield of this season is beginning to come on the market. At this writing the demand for it is limited, but we usually have a very good demand by the beginning of August. What sales are being made now are on a basis of 15 cents for fancy white comb. For lots of any size this would be shaded, say a cent or so per pound, although a determination not to accept lower prices is our purpose at this time, as we believe

the fine quality of the honey will create a demand for it that will pay this price. The consignments received up to this writing are most desirable, in that the sections are well filled, and the honey securely fastened to the same, giving promise that much of the honey will grade A No. 1 to fancy.

August and September are favorable months for transporting honey, as the wax is strong and there is seldom any of it broken in transit. Indeed, we think that, at this time of the year, honey shipped without being crated in carriers of six or eight cases comes quite as safely as that in the carriers.

The demand for extracted for family purposes is quite limited, and will be for a little while to come: meantime, clover is being sold from 7 to 8 cents per pound; amber, $5\frac{1}{2}$ to $6\frac{1}{2}$. The variation in price is caused by quality, flavor, and style of package. Beeswax sells freely at 30 cents per pound when clean and of fair color.

R. A. BURNETT & Co.

Chicago, Ill., July 22.

THE PICTURE ON THE COVER FOR THIS ISSUE.

Something like twelve or fifteen years ago I purchased a rhododendron of the Storrs & Harrison Co., of Painesville, Ohio. I think the plant cost \$1.50. It was about a foot and a half tall, and it was in full bloom when I received it. The rhododendron, or flowering evergreen, as it has been sometimes called, is a plant that can be shipped safely when in bloom, without injury. Yes, it is said that you can take a plant out of the garden and set it on the dinner-table, and plant it back in the garden again when in full bloom, without any setback. Perhaps this might be done with a small plant; but the one on the cover page is now taller than my head, as you will notice, and from five to six feet across. It has a beautiful round head of bright glossy evergreen leaves, and has stood safely the frosts of more than a dozen winters, and has always given us more or less bloom in the month of June. Each bunch of blossoms is nearly the size of my cap, as you will notice; and there were perhaps over a hundred trusses of bloom like the ones you see. The color is a beautiful pink; and inside of each flower there are pencilings as if a skillful artist had dipped his brush in some golden paint and dextrously touched the blossom here and there. I explained to the grandchildren that these pictures inside of the beautiful flowers are done by God's fingers. The glossy evergreen leaves roll up in the winter whenever the temperature is much below freezing. When the sun comes out they will unroll in a very few minutes. But when a freezing blast starts up suddenly they will curl up in about as short a time. I think this plant stands the weather best on the north side of the house. It then gets shade when the weather is very warm, and the sun is not so likely to start it early in the spring. I do not think I ever invested money in any flowering shrub that gave me more satisfaction than this one.

On either side of me you can get a glimpse of some blood-red Japanese maples. They too have passed through many winters without any protection; and their brilliant foliage, especially in the spring, when the new leaves are out, is as handsome as a beautiful flower; and it is a flower that is *always* in bloom. Of course the leaves drop off in winter, unlike the rhododendron, which always has foliage.

When I asked Ernest to give the readers of GLEANINGS a picture of that beautiful plant in full bloom I did not contemplate putting myself before you so prominently; but he said I needed to stand up among the flowers in order to give you a fair idea of the size of the trusses of bloom.

A. I. R.

GLEANINGS FROM OUR EXCHANGES

By W. K. MORRISON

According to the best advices obtainable, the sugar crop of the world is short, due to the shrinkage of the Cuban output by 500,000 tons. Corn is also high, so that glucose production must be curtailed until the price of corn goes down. The honey crops of Texas and California are considerably short of an average.

The Texas Agricultural Experiment Station has just issued an excellent bulletin on the honey-plants of the State. It is largely the work of Louis Scholl, assisted by his brother, E. E. Scholl. Professors Mally, Newell, Sanderson, and Conradi also contributed. To the Texan bee-keepers it will prove valuable, as they can obtain the correct names of honey-plants by consulting it. To students of honey-bearing plants it must prove invaluable.

MORE LAND FOR SETTLERS.

Secretary Garfield has ordered opened for settlement 18,000 acres of land embraced in the Sun River irrigation project in Montana. This forms what is known as the Fort Shaw unit, which was withdrawn from entry while the canals were building. The terms are somewhat the same as for other irrigation projects built by the United States government. Practically Uncle Sam will give away 205 farms of first-class land. The money paid is simply for the construction of the waterworks. If you desire more information, apply to the Statistician, United States Reclamation Service, Washington, D. C.

PARCELS POST AND GROCERS.

At the recent convention of the National Grocers' Association a strongly worded resolution was passed against parcels post in any form. As no one has proposed sending groceries by mail except on rural routes it seems as if the grocers went out of their way to take a slap at the farmers. It would be well if more resolutions of this sort were passed, for the farmers would soon be in a position to know who are their friends and who are their enemies. The special agent of the express companies in the national Senate, Mr. Platt, will soon retire (at the end of the term), and ere long we shall know just who is against this great improvement in our mail service, as Senator Carter intends to force Congress either to reject or accept parcels post.

MAMMOTH CLOVER AS A SOIL-IMPROVER.

In Michigan there is what is what is known as the "jack-pine lands," which have proved until lately a sort of white elephant to all who essayed to work them. Experienced farmers with means tried their hand at the problem of soil improvement, always to meet with defeat. Recently it was discovered that mammoth clover would grow luxuriantly on these sandy lands, and this proved to be the key to the whole situation. Growing this clover for some time fits the soil for other

crops, so that all the farmer requires to make a fair start is a supply of mammoth-clover seed. Michigan has some 2,000,000 acres of such pine lands; Wisconsin an equal amount, and Minnesota even more, so that the value of the discovery is considerable. Bee-keepers will be pleased, as mammoth clover is a honey-plant of considerable value. The United States Department of Agriculture has recently issued a bulletin covering this subject. We think it is free.

A LESSON FOR BEE-KEEPERS.

The millers of the Northwest at their recent convention decided to spend \$100,000 in an active campaign in behalf of white flour. They say they were forced to do this by the oft-repeated assertion of the breakfast-food manufacturers and others that fine bolted wheat flour, when made into bread, produces stomach troubles, whereas there is no truth in such a statement. For years Americans have had it dinned into into their ears that fine white flour is injurious, with the result that the sale of it has been seriously curtailed—at least the millers entertain that opinion. Bee-keepers can learn a valuable lesson from the millers as to the value of printers' ink. They can learn another—not to allow derogatory statements about honey to appear in the public prints. After a while people get to believe such statements to be true, and act accordingly. The net result is that the whole industry is hurt.

A NEW KIND OF WAX.

Newspaper reports from Southwest Texas proclaim the discovery of a kind of vegetable wax which can be extracted from a native desert plant known as candalai, growing profusely on desert lands in Brewster and Terrell counties in very much the same manner as rubber is extracted from the guayula plant in the same region. A Mr. Willet, a mining engineer, claims the merit of the discovery, and has just secured a concession from the Governor of Texas allowing him to appropriate all the candalia-plants he can get for five years. He proposes to erect extraction-works at Sanderson, Texas, and interest local capitalists in his enterprise. He claims there is not less than 100,000,000 tons of this shrub in sight in Southwest Texas. This is a rather high estimate, for candalia is a small shrub, and grass or shrub of any kind is not very common in either Brewster Co. or Terrell. We shall await further developments with great interest.

BEEES IN CALIFORNIA.

Prof. Cook seems to feel rather "blue" about the prospects for successful bee-keeping in Southern California. There are good prospects ahead. Note the great Harriman project mentioned last issue; also the Yuma project now being constructed, and the Phoenix project, which will be finished next year. True, these last are not in California, but they are not far away. Date culture, alfalfa-growing, and citrus crops will be the main stays of the farmers there, very likely. If so, bee-keeping will be a safe industry, as all three are excellent nectar-bearers. Cotton-growing and cantaloupes will also favor bee-keeping should the ranchers find these crops profitable.

The United States Reclamation Service has on its slate a project for damming the Colorado River, for a great scheme costing \$40,000,000 at least. These plans, when carried out, will result in great good to the bee-keeping industry in the far Southwest.

NOTES FROM CANADA

By R. F. HOLTERMANN.

Oh for some easy method of getting a young laying queen into a hive to replace one which is failing! I have seen many methods advocated, but I am afraid I lack the courage or faith to put some of them into practice. Others entail too much work and loss.

We have been spending day after day examining stocks for queen-cells, noting the general condition, giving room, and doing the many things necessary in modern bee-keeping. The honey-flow has been good over almost all the province. There have been remarkable yields of honey; and yet in some sections, owing to dry weather, the flow has been poor. Many ask what prices will be, and I am pleased that I am not on the committee which is to recommend a price. There should be moderation both ways. The prices should be neither too high nor too low. First-class honey will be protected by a duty to a certain extent.

INFERIORITY OF BLACK BEES.

I never before was so thoroughly convinced of the inferiority of black bees. My Carniolans and even the Italians can keep a twelve-frame Langstroth brood-chamber well filled with brood; but the black queen generally occupies less and less room with brood; and where there is a long flow of white honey, and then a fall flow, the black colony is simply not in it at all, because of the lack of bees.

THE NEXT NATIONAL BEE CONVENTION TO BE THE BEST YET.

Because of the energy which Secretary W. Z. Hutchinson is displaying, the good honey-flow bee-keepers are securing, and the great help which individual members of the association might give to create an interest in the meeting, the coming National convention at Detroit should in reality prove to be *the best yet*. I know of quite a number of Canadians who expect to be there.

MOVING A CARLOAD OF BEES TO THE BASSWOODS.

We are just preparing to take a carload of bees to basswood at Long Point Island. Two years ago I took 240 colonies there at an outlay of about \$200, and received practically no return; but the enterprising bee-keeper must run such risks. The result may be very different. This season a 10,000-lb. return would not be any more remarkable than a failure.

When moving we screen the hives in front and not on top, and we water the bees frequently, so that they are moved with comfort to themselves and to us.

BEES NOT SO MUCH INCLINED TO ROB IN CLOUDY WEATHER.

We always have a number of students at our apiaries so that we have more or less of a school or college, and we discuss methods and reasons for action. We were speaking of robbing, and to a young man from Finland, Russia, who is with me for the season, I said that, other conditions being equal, bees do not start robbing as readily in cloudy weather as when the sun shines. In robbing-time I prefer a cloudy morning to a bright one; for when the sun shines brightly, robbing is more likely to occur. Another young man who has been with me for years endorsed this statement, and added that it was something which, so far as he knew, had not been mentioned in the bee-books and papers.

THE BUILDING OF WORKER-CELLS AN INDEX OF THE PRESENCE OF THE QUEEN.

How many beginners in bee-keeping there are who do not know that, when the bees build worker comb naturally, it is a sure sign of the presence of the queen, and that it settles at once the often difficult question as to whether the queen is with the bees or not! Another way, if one is doubtful as to the presence of a virgin queen, is to give the bees a comb of young unsealed brood; and if the bees are queenless they will start cells. Many a queen is destroyed in introduction because the bees have other means of securing a queen. Avoid giving the colony young brood; and if such must be left in the hive, examine the combs, and in about 36 hours break down any cells that may have been started.

THE ASPINWALL HIVE PUT TO A SEVERE TEST.

Some object to the Aspinwall hive because it is large and can not be readily carried about. Such men, in advancing that reason, are at least dangerously near the class that would object to a modern reaper because the old sickle can be carried about more readily. I have five Aspinwall hives in my apiary. On a certain day I gave instructions to a young man to make a special hive for some of the combs which were to be taken out of the brood-chamber and replaced by the slatted frames between the remaining combs. Owing to the end-spaces, the Aspinwall frames are not interchangeable with regular ones, and can not, therefore, be put into an ordinary hive. The young man neglected to do this, and the following week three of the five colonies had the swarming impulse. Of course, this is no reflection on the hive, as, without the slatted divisions, it was not really an Aspinwall hive. We then put in these slatted frames, or divisions, and actually broke up the swarming impulse in two out of the three. The third colony swarmed, owing to one cell being missed; but the bees returned after the cell was broken down; and this colony, too, is now free from the swarming impulse. This was a rather severe test, as the hive is supposed only to *prevent* the swarming impulse and not to cure it.

HOW MUCH SHALL HONEY BE THINNED FOR FEEDING BACK?

The same young man from Finland is making a careful study of the A B C and X Y Z of

Bee Culture; and when we had occasion to speak recently of feeding back honey to complete sections, he stated that the A B C advised using one part of honey to four or five parts of water, and that the cappings frequently looked water-soaked. I told him he must be mistaken — that the prescription should be reversed — one part of water to four or five parts of honey, I thought. He then produced the book. Surely, the editor's pen failed to put down his thought. Such things do happen; but it should not be allowed to appear in another edition. [This statement is a mistake, of course, and we acknowledge with thanks the correction. These figures had been marked for correction, but in some way the change failed to materialize, and the matter was then overlooked. But would simply reversing the figures make the statement entirely correct? We have found that one part of water to two parts of honey makes a mixture that is of about the consistency of raw nectar, and we should be afraid that one part of water to four or five parts of honey would give too thick a mixture. We should be glad to hear from any who may have had experience in feeding back. Let us be sure that the consistency is right.—Ed.]

CONVERSATIONS WITH DOOLITTLE

MANAGEMENT OF SUPERS.

"When working for section honey, when should I put on the supers?"

"There are a number of things to be taken into consideration in deciding when to put on supers, Mr. Robinson. In working for comb honey, the more we can keep all the bees in one colony, the better. In other words, the stronger the colony the better chances we have of success."

"But do not strong colonies tend to induce swarming?"

"Yes. But we can do much toward restraining the swarming tendency."

"I should like to know about that; for as soon as my colonies became strong in numbers last year then they began to swarm."

"How much entrance did you give them?"

"The same as they have the year around—probably one-half inch deep by four inches long. Would that be enough?"

"That would be all right for winter; but for summer the entrance should be the whole width of the hive, and from one inch to 1½ inches deep, so as to give abundant ventilation beneath the brood-frames."

"But how do you get this height of entrance? My entrances are only half an inch deep."

"Is your bottom-board nailed fast to the hive?"

"No."

"Then all you have to do is to take a piece of seven-eighths board, the same length as that of the hive from front to rear, and mark off one inch at one end and nothing at the other, sawing through so you will have a wedge-shaped piece as long as your hive. Now, with two such pieces to each hive you are prepared to ventilate easily any hive

by simply raising the front and slipping the points of the wedges in till the thick ends come even with the front of the hive. You now have an entrance 1½ inches deep by the width of the hive."

"Will that keep all colonies from swarming?"

"No; but it has a tendency that way. In addition to this you will need to shade the hive from the hot sun between the hours of 9 A.M. and 4 P.M.; and in this you will add another tendency toward overcoming the swarming of bees."

"But the man of whom I purchased my bees told me that they did better out in the open than they would do in the shade of trees."

"Well, I guess he was all right there; but the shade I advise will allow the sun in the morning and later in the afternoon to strike the hive. It is for the seven hours during the hottest part of the day that the shade is needed."

"How is that to be obtained? I use tin on the tops of my hives to prevent leaking, and I have noticed that this gets so hot on warm days when the sun is shining that I can not hold my hand on it."

"No wonder you were troubled with swarming, with that small entrance and the almost melting heat from the top of the hive. A shade-board should be made out of any old light lumber. The rear of this board should be about three inches from the top of the hive to allow the cool air to pass under it, and the "pitch" thus given will carry off all the water when it rains."

"How big should the board be?"

"I make mine ten inches wider than the tops of the hives, and six inches longer. This longer space comes entirely on the south side of the hive so as to shade the front and the entrance, while the other is divided equally. In this way the whole of the hive is shaded during the middle of the day."

"I see. I have gained another pointer. But we have said nothing about *when* to put on the supers."

"I know we have not, for I thought it better to touch the real trouble with you first."

"I supposed my trouble lay in not knowing just when to put the supers on. When should this be done?"

"When you have your entrances fixed and your hives shaded as we have been talking about, keep an eye on the bees and your field as regards the clover bloom. As soon as you see that the white-clover blossoms are opening, and on pleasant evenings there is quite a show of bees at the entrance of any hives, they standing there with fanning wings, you may know that the colonies where you see such bees are strong enough for a super, and that they will enter it as soon as nectar above the wants of the brood begins to come in from the clover. That is about the only way to tell from the outside of the hive. You will know a little better if you open the hive. If you see that any of the cells along the top-bars of the frames are being lengthened out with new white wax, and see honey sparkling in the cells, you should certainly have the supers on at once; for, failing here, you are apt to induce swarming on account of the honey crowding the brood, and the bees becoming crowded in their hives."

"You would use starters of foundation in every section in the super. I suppose?"

"In all but the center tier of sections in the supers. These should have baits in them."

"What do you mean by baits? Do you smear the foundation in these sections with honey?"

"No, not that. Nearly if not quite every one working for section honey has more or less sections in the fall of every year which are not filled full enough to be marketable. The bees are allowed to take the honey out of the combs in these sections, when they are placed in the center of the supers so that the bees find drawn comb in the first super put on, ready for them to store nectar in as soon as any comes in from the fields. And, beginning thus, they will at once begin work in the other sections immediately surrounding these, and thus the bees are *baited* into the sections before they would otherwise go."

"I see. But suppose I or any one else does not have such left-over sections."

"Not having any left-over baits, the next thing is to find, if possible, some pieces of white comb as large as your hand, and fit them in the sections. It will pay you to do this, even if it does make a little extra labor. Yea, more. I would have at least one section in the center of each super, or the super first put on, even if I had to use old black comb for that section, and four would be better still. And if we have the sections filled or partly filled with comb left over, 4 times 4, 16, is so much the better; and if we could have the first super on each hive filled entirely full of such sections containing combs all white and clean, left over from the year before, we could almost bid defiance to swarming if our hives were shaded during the middle of the day, and the wide-open entrances given. If the colony is strong, as soon as it commences sealing honey in these combs a second super of sections, all full of foundation, should be given; and thus early in the season, and under these conditions of keeping down swarming, this super should be put under the one the bees are already at work in, and a few days later put another super on top of both, which will almost insure no swarming of that colony."

Borodino, N. Y.

GENERAL CORRESPONDENCE

FOUNDATION FOR SECTIONS.

Split Sections vs. Hot-wax Methods; Perfect Filling Desirable; a Reply to Mr. Atwater.

BY J. E. HAND.

Mr. Atwater, page 151, says, "With the Hand method all sections must be rehandled," etc. He seems to lose sight of the fact that empty sections can be put into frames more rapidly than after they are filled with foundation.

Sections may be filled with foundation and put into frames at one operation by my method. The difference in the two methods is that, with my method, four sections are filled with one continuous sheet of foundation at a single operation

after they are half way in the frames, and with the usual methods the sections are treated one at a time, and the operation repeated if bottom starters are used. It is easy to see which is the most expeditious method. Again, while sections with swinging sheets of foundation must be handled with care, and kept right side up, frames filled with foundation will by my method stand any amount of rough handling, and may be piled up like cord-wood.

Mr. Atwater calls for proof that my method is the most rapid. I am no longer young, and my joints are somewhat stiffened by rheumatism; but I can fill sections by my method at the rate of 500 per hour, and I can't do more than half that many by any other method that I know of.

The fact that the split-section method is much more rapid than either the hot-plate, or melted-wax plan is a very small item when compared with the quality of the work as shown by the finished product, which results in a higher per cent of strictly fancy sections; and it is the fancy article that brings the highest price.

The manner of putting in foundation has much to do with the perfect filling of sections, and perfect filling makes a difference of one to two cents per pound in the selling price.

Unless the foundation fills the section perfectly, there will be pop-holes in the corners, and these greatly detract from the appearance of the finished product, and it is the appearance that makes quick sales.

I can agree with all that Mr. Atwater and Dr. Miller say regarding sections filled with foundation, and fastened on all sides with melted wax. I do not consider such a method as practical, for reasons already given by these gentlemen, and which I have proven to my entire satisfaction.

These objections do not apply to the split section, in which the foundation, though held in position in the center of the section, whether the hive is level or not, is not really fastened to the wood at all until the bees fasten it, which is after the stretch has been taken out of it.

Thus the stretch is not confined to any one section, but is equalized between the four sections, which eliminates the sagging and warping nuisance which is so vividly illustrated in Fig. 2, p. 152. It is true that sections split on three sides were patented in England, likewise sections split on one side and also the whole length; but so far as I can learn I am the first to use the continuous sheet in sections split on three sides.*

Regarding the line of wax that shows on the sides and top of split sections, I am not a prophet, and can't say what may happen in the future; but I am not going to lie awake nights for fear people will think my honey is not the genuine article, especially since I have sold tons of fancy honey in split sections, and the only complaint has been that there was not enough to supply the increased demand.

In figuring the relative cost of putting founda-

* Referring to this, if Mr. Hand will refer to Samuel Simmins' "Modern Bee-farm," edition for 1893, page 91, and later editions, he will find that the author used long sheets of foundation without cutting, which he put in three of these split sections at one operation, the same as Mr. Hand. The only difference was that Mr. S. used three sections while Mr. H. used four. This is the language that Mr. Simmins used in the above reference: "My three-side cut sections can also be used, . . . the sheet of foundation being placed across the three sections without cutting."—Ed.]

tion in sections by the different methods under discussion, H. H. Root, page 18, Jan. 1, seems to lose sight of the fact that the accurate cutting of the foundation required to make a perfect fit, which is so essential when using the full-sheet and hot-wax plan, will cost about the same as the splitting of the sections, and I can save half the cost of putting it into the sections by reducing the time fully that much.

Regarding the appearance of the split section, it is true that the edge of the foundation shows on three sides. However, that can not well be considered as an objection, since the line is perfectly straight and true, and the section, being protected by the wide frame, is perfectly white and unsoiled; and the thin stripe around the section only adds to the appearance by breaking up the monotony of a plain surface, and gives the section a finished appearance.

The ordinary section of honey produced in a T super or section-holder, with the top soiled and discolored by propolis, actually looks cheap beside the split section with its solid block of honey without any pop-holes.

The real value of the split section, and its superiority over every other method, can be determined only by a comparison of the finished product, which results in a higher percentage of perfectly filled sections than any other method. And even if it cost twice as much to fill sections with foundation by this method, the difference in the selling price of the honey would make it up many times over.

Birmingham, Ohio.

[Some of our subscribers have had a chance to test the propositions advanced in this discussion during the past season, and we should be pleased to hear from all such. Let us have the facts.—ED.]

CARBON BISULPHIDE FOR FUMIGATING.

How to Apply; Is it Safe to Use Cyanide of Potassium?

BY J. L. BYER.

Prof. Surface's article, page 571, May 1, regarding the eradication of the bee-moth by means of cyanide of potassium was read with considerable interest. While every statement made by him is true, yet I can not refrain from entering a protest against the use of such a deadly drug when we have something else just as efficacious, and practically free from any danger attendant on its use.

In common with Prof. Surface, the writer has no use for sulphur for fumigating combs, as the fumes of that article always (even when the slightest quantity is inhaled) cause me to be very sick—nausea and violent headaches being the main symptoms. The "just as good" I have in mind is, of course, the comparatively well-known drug, carbon bisulphide. The only danger accompanying the use of this article in fumigating any thing is the certainty of an explosion, if the room where the gas is circulating is entered by any one bearing a light or fire in any form. Of course, this is a circumstance easily guarded against, as combs are pretty sure to be treated in

the honey-house or other out-building. Certainly no one would think of using the cyanide treatment too near the living-rooms.

Like the cyanide of potassium, the fumes of the evaporating carbon bisulphide will kill the bee-moth (or any other insect) in all stages, whether as egg, larva, pupa, or winged moth; and, in direct contrast with the cyanide of potassium, the carbon-bisulphide treatment is so simple and so free from danger that the veriest novice can use it as effectually as a veteran. All that is necessary is to have a close room (or, better, a close box), size dependent on the number of combs to be treated. While it is not absolutely necessary that the receptacles be air-tight, yet the nearer that condition the less of the drug required.

On top of the combs (the fumes are heavier than air; hence go downward) pour a few ounces of the drug in an open dish, and the job is done. At two of my yards the fall flow is so light that we often remove supers at the close of the clover-flow, and allow what little honey that comes in afterward to go into the large brood-nests. These super combs, as well as any empty brood-combs that are on hand, are packed close together in large boxes holding over 300 frames of Quinby dimensions in each box. These boxes are made of matched lumber with close-fitting top of the same material. When the box is full of combs a common saucer is placed on top of the combs at each end of the box, the two saucers filled with the carbon bisulphide, box closed, and the combs are good for all time so far as moths are concerned.

In the summer of 1906 one of these large boxes was filled with over 300 combs in August at the Cashel apiary. At the time we had no carbon bisulphide on hand; and when we made our next visit to the yard we found that the small grubs were already quite numerous; and wherever the combs touched together the fine webs were much in evidence.

As explained before, two saucers of the carbon bisulphide were put on top of the combs, and the box closed. Two weeks afterward the box was looked into, and every moth larva was as black as a coal, and the combs were never looked at again till the following June, when not a particle of damage was found, barring the little injury that had been done previous to the carbon-bisulphide treatment.

I have had no experience with fumigating comb honey, and hence I could not say whether the gas would discolor the cappings or not; however, from absence of any after-effects on combs I am inclined to think that no damage would be done.

THE COST OF THE BISULPHIDE.

Just a word as to the cost of the carbon bisulphide. There is no question but that the cost of production of this drug is very low; but for the first few years of our experience our local druggist taxed us five cents per ounce. A friend knowing something of the drug trade "made me wise," and since then the same druggist now charges me 25 cents a pound.

At my three yards I usually use about one pound, so you see the cost is not worth mentioning.

I might yet say that, if no box is handy, small quantities of comb can be made temporarily free from the moth if the combs are in fairly well-

made supers piled one on top of the other. On top of the upper super place some carbon bisulphide, and then cover quite closely.

With all due respect for Prof. Surface, we would repeat that, in our judgment, the use of such a deadly thing as hydrocyanic-acid gas should not be recommended when we have a substitute just as good, and practically free from any danger attendant on its use.

Mount Joy, Ontario, Can.

HIVE-CLOTHS.

A Practical Plan for Those Who Wish to Use Cloths Under the Hive-covers.

BY WM. MUTH-RASMUSSEN.

Occasionally I see in my bee-papers some allusion to this subject, and, according to the old adage, "Many men of many minds," some bee-keepers must have cloths under the hive-covers, while others would not use them at any price. The Dadants have used home-made mats; A. I. Root at one time recommended enameled cloth, and other materials have been tried; but the material which is probably most commonly in use, and most easily obtainable, is burlap or gunny-sacking. When I lived in Southern California, some 30 years ago, it used to be a common saying that gunny sacks and baling-rope were legal tender among the bee-men. The baling-rope was used around hives when moving them, and for tying branches of sycamore-trees on a permanent framework to shade the hives during the summer.

Being one of those who must have a cloth under the hive-cover, I was naturally always on the lookout for the best material for this purpose; but for many years I found nothing better than gunny sacking. This, however, was very unsatisfactory, as the bees would gnaw holes in it, and the cloths had to be discarded and replaced by new ones every few years. Finally I read in the printed report of the National Bee-keepers' Convention, held in Los Angeles in 1903, that Mr. J. F. McIntyre used painted hive-cloths. It was not long before I started a correspondence with him, and, through his kindness in furnishing me with the desired information, as well as by my own practical experience with them, I am now enabled to give complete directions for making such cloths, which, I feel sure, will prove a boon to all who use cloths under the hive-covers.

MATERIAL.

I find that white duck is the best for the cloth; 8-oz. duck may do. As I could not get this here, I used a heavier quality. Mr. McIntyre prefers 6-oz. drill as being a little smoother. I tried sheeting, but found this too limber, and too easily pulled out of shape. I procured the duck, twice as wide as required, for my cloths, and then split the whole bolt lengthwise in the middle into two equal strips.

SOAKING.

One of these strips was then placed in an empty washtub by laying the cloth down zigzag fashion, so that it could be gradually drawn out without disturbing the underlying folds. After weighting the cloth down with stones, the tub

was filled with water and left thus over night. As the cloth will absorb a great deal of water it will not suffice merely to cover it, as then the top folds might be found high and dry the next morning. There should be plenty of water and to spare. The object of soaking the duck is to keep the oil out of the cloth, as the oil, according to Mr. McIntyre, will rot cotton fiber. The soaking will shrink the cloth, particularly in the direction of the warp, so that, in buying material for a given number of hive-cloths, one has to make allowance for the shrinkage. I found that the 11-oz. duck, which I used, shrunk half an inch to the foot lengthwise.

PAINTING.

The next morning the paint is prepared by mixing yellow ochre with boiled linseed oil in the proportion of equal parts by weight. After splitting the bolt, each strip of the cloth was about 20 inches wide, and it required 4 oz. of ochre and the same of oil to give each yard in length two coats. The paint should be stirred frequently while being applied, otherwise much of the ochre will settle to the bottom.

A low table is now arranged close to and with one end toward the tub by tacking a couple of foot-wide boards side by side on two trestles or saw-horses. These boards may be of any convenient length, say 8 or 10 feet. Rough boards are better than planed ones, as the wet cloth does not adhere so tenaciously to a rough surface.

When every thing is in readiness, the stones are taken out of the tub and the water poured off. If this is not done, pools of water will collect on the surface of the cloth and interfere with the painting. The cloth is now drawn out on the table until it reaches the further end, and the whole strip, as far as it covers the table, is given a coat of paint, leaving, however, about 2 inches of the end of the cloth unpainted, so that one can take hold of this to pull the cloth by without getting the fingers into the paint every time. The paint should be put on middling thick with a good wide brush, care being taken that no spot is left unpainted, as the bees will bite holes in the cloth if they can get to the fiber. When one table-length is painted, the cloth is pulled out on the grass or on smooth clean ground, and another table-length gone over in the same way, and so on until the whole strip of cloth has received a coat of paint. If the cloth adheres too much to the table while pulling it, slip a round stick, as a curtain-roller, between the cloth and the table, moving the stick toward the tub and leaving it on that end of the table, when the cloth will move along with the stick rolling under it without any difficulty. The painting should be done on a warm, bright, and calm day, so that the paint may dry quickly and the cloth not be flapped round by the wind. As the corners of the cloth have a tendency to curl up while drying, I put a stone on each corner. In two days, according to the weather, the paint will be dry, and a second coat is given—this time, however, without wetting the cloth. When dry again, the cloth may be drawn up on the table or laid on a smooth floor, and cross-cut into pieces of the right size for hive-cloths. If these are not put to immediate use they may be piled up and covered with a hive-cover with a weight on top. This will keep them flat and in good shape until wanted.

USE.

The cloth should be put on the hive with the painted side down. When it is removed during manipulation of the frames, do not lay the painted side on the ground, as it may be more or less gummy with bee-glue, and pick up sand and trash. If the sun is likely to shine on the cloth, while off the hive, the better way is to fold it with the painted side in. The painted surface gets very hot when the sun is shining on it. If the painted surface becomes too much covered with bee-glue or burr-combs it can be scraped off, while quite warm, after exposing it to the hot rays of the sun.

COST.

I figured that the material (cloth and paint) cost me about 10 cts. for each hive-cloth. In this out-of-the-way place every thing (except honey) is expensive. In more favored localities they would probably cost less. I used to pay 5 cents apiece for second-hand gunny-sacks; and as each sack would make only two hive-cloths, with some waste, the old cloths cost me $2\frac{1}{2}$ cents each; but, as stated above, they had to be replaced every year or two. The painted cloths appear to be good for many years to come, and will, therefore, be cheaper in the end.

They are quite flexible, and do not crack; yet they are stiff enough to remain flat and smooth when peeled off from the hive. They are airtight and water-proof, so that, even if the cover should happen to leak, the water will not soak through the cloth. I have now used 250 or more of these hive-cloths for three years, and I have yet to find the first hole made in any of them by the bees. I did, however, find one case where a colony had died out; and, as it was not discovered for some time, the moth-worms took possession and made several small holes in the cloth, biting through from the painted side.

In conclusion let me say that I am very much pleased with the change from the old to the new style of hive-cloths, and I owe Mr. McIntyre a debt of gratitude for putting me on the right track in this regard. I hope that others may try it and be likewise benefited.

Independence, Cal.

ALSIKE CLOVER.

Profitable for the Farmer and for the Bee-keeper.

BY ADAM LEISTER.

[The writer of the following article, Mr. Adam Leister, is one of our neighbor farmer bee-keepers who makes a success both with his farm and his bees. In talking with him the other day as to why so many farmers were putting in alsike in place of the ordinary red clover he made some statements which he kindly consented to put in the form of an article. As he is posted as to all of the latest developments of both branches of his business, and a close observer as well, his article should merit a careful reading, especially by the farmer class of our readers.—ED.]

For several years the high price of the common or red clover, together with the uncertainty of a catch, has set farmers to thinking about some substitute. Alsike clover, with its pink-and-white blossoms, is covering vast fields to-day that would otherwise be barren. I have read

much about "clover-sick soil," and I have sown red clover for 35 years, and have closely observed the time for sowing, with all conditions bearing on this part of the program. At times my sense of reasoning utterly came to a standstill as to why the catch is not better.

The observing eye has noticed the spontaneous growth of alsike along roadsides and wet places where red clover is apt to winter-kill. The meager catches of the red clover, with its high price of late years, have unconsciously driven the farmer to the sowing of alsike clover.

As a milk-producer I consider alsike fully equal to red clover. Sheep thrive on it, and eat it with the greatest of relish. The bees have filled their hives this season much earlier than usual, for they have worked on the alsike, which is much earlier, more vigorous, and larger, than the white clover, and produced a very desirable grade of honey. Alsike clover certainly ought to receive one page in the seed catalogs. When mixed with red clover it makes a perfect stand. It is highly profitable for pasture, as it makes excellent hay for all kinds of stock; and last, but not least, it has a value for honey that is surpassed by no other clover. We welcome its presence, and look upon it as the most profitable crop that the farmer can grow when its honey value is considered.

Medina, O., July 6.

CURING CLOVER AND ALFALFA.

Wallaces' Farmer makes a good distinction when it says that the moisture in the stalk can not be easily taken out if the leaves are turned to a crisp, as they will be if the hay is dried in the hot sun.

We must learn more about this business of properly curing clover and alfalfa. First, that we may put it in the mow in the highest nutritive state. That is very important; for if we are wise we shall want our cows to derive the largest benefit they can from the hay.

Second, we must guard against the ever imminent danger of spontaneous combustion or spoiling from over-heating in the mow. To put clover or alfalfa in the mow so it will be safe, and come out in fine color and highest nutritive value, ought to be the purpose of every good farmer. Too many men are simply anxious to rush the stuff in without regard to these other more important matters. We have never yet found a way of curing clover or alfalfa that will encompass these ends except by curing it in the cock and under hay-caps.

Now, if the clover or alfalfa is put into the cock as soon as it is fairly wilted, the moisture of the stalk is evaporated through the leaves, the natural way, and all the juices and flavors are retained and moisture dried by the fermentive heat rather than the burning rays of the sun. In this way the hay is cured rather than dried, and the nutritive value is best preserved. Not only this, but the leaves themselves, the most valuable part of the hay, are preserved. Cure clover and alfalfa in the cock with the addition of the hay-cap, and if cut at the right time the process is complete.—*Hoard's Dairyman*.

DR. C. C. MILLER.

"The Smile that Won't Come Off."

BY E. R. ROOT.

Most of the time I write under the editorial *we*, for, although nearly all the matter signed "Ed." is by me, I often reflect the opinions of my associates on the staff; but in this case I prefer to adopt the first personal pronoun, for I do not know how I could speak of a very good friend and valued correspondent disguised under the editorial cloak.

I am very glad to introduce Dr. C. C. Miller just as he looks at bee conventions, for most of the time he has a half-smile on his face, for that seems to betoken the geniality that runs all through the man.

Some years ago—yes, nearly twenty—I said to Dr. Miller, "You have a peculiar talent for making bright comments in convention, throwing in a few sentences and then sitting down. These comments always enliven the proceedings. Now, can you not edit a department for GLEANINGS made up of short items of running comment, something after the style of your convention work?"

Turning to me he said, his wonted smile vanishing for the moment into a serious expression, "Ernest, I doubt my ability to carry out your ideas, but I have confidence in your opinion. I will try it. If you do not like the stuff, throw it into the waste basket."

There, now you have the origin of Stray Straws. We had a department running, as we do now, called "Heads of Grain," and I suggested "Kernels of Wheat" as an appropriate heading; but Dr. Miller very modestly preferred Stray Straws, as he was not sure that he would be able to glean very much *wheat*. As to the general character of the Straws, and whether they are worth binding along with the other gleanings from many fields, I don't need to say. Our readers have long since settled that by the eager way they grab at the Straw-stack in Marengo.

Dr. C. C. Miller is probably one of the best-known apicultural writers in the world. He reads both the American and European exchanges, and his articles and comments on both sides of the Atlantic have brought him into prominence throughout all beedom.

His writings are further enhanced by a ripe experience of many years, for he is now in his 78th year, having been for forty years a bee-keeper, and a good one, especially in the production of comb honey; and, if I mistake not, his crops are sold before they are off the hive. This speaks volumes, not only for his method of management but for his careful honest grading, which is all done by the members of his family. The buyers know in advance just exactly what Dr. Miller's honey is going to be, and they are usually willing to pay above the market because they know beyond any question that there will be no after-quibble over the grading, quantity, or quality. There is no reason why many others can not sell their crop in the same way.

You may wonder why I have felt inclined to put in a picture of our correspondent at this par-

ticular time. Well, I have had intimations that our good doctor was not going to be able to keep up the fast pace which he has maintained all his life; and the thought came to me that possibly we might, not very many years hence, miss some of those writings which are so generally labeled with smiles.

Too often we pay tribute after our friends are gone, and just as often regret that we did not bestow some mead of praise while they were with us, especially if they are of the kind that can't be spoiled. For that reason I felt inclined to present the "smiling picture" which his family and all of us know is so natural—not because we see a smile, but because we know there is something *within* that makes a "smile that won't come off." What a happy world this would be if we all had that smile!

Dr. C. C. Miller has long since ceased to think of the dollars. All he seems to care for is enough to provide for himself and family. For many years his sole thought has seemed to be, "How can I help to make the world happier and better?" He is an active worker in the church and Sunday-school; but of late he has been admonished by his physician to let some of those outside things go. He is beginning to husband his energies; but, as any one can see who follows his writings, he makes a constant effort to bring the name of his Master before the world.

When I sat down to write this sketch I did not have in mind the writing of a biography or an obituary. I intended to dictate only a brief note expressing what I believe to be the real sentiment of our readers, if I may judge of what I see in the writings of our correspondents.

We sincerely hope that the doctor will have strength enough to attend the National convention at Detroit, for I doubt not there are many who would like to see a real "smile that won't come off," and many others who would like to get hold of his hand and shake it, and tell the owner of it how much they love him.

BOTTOM STARTERS.

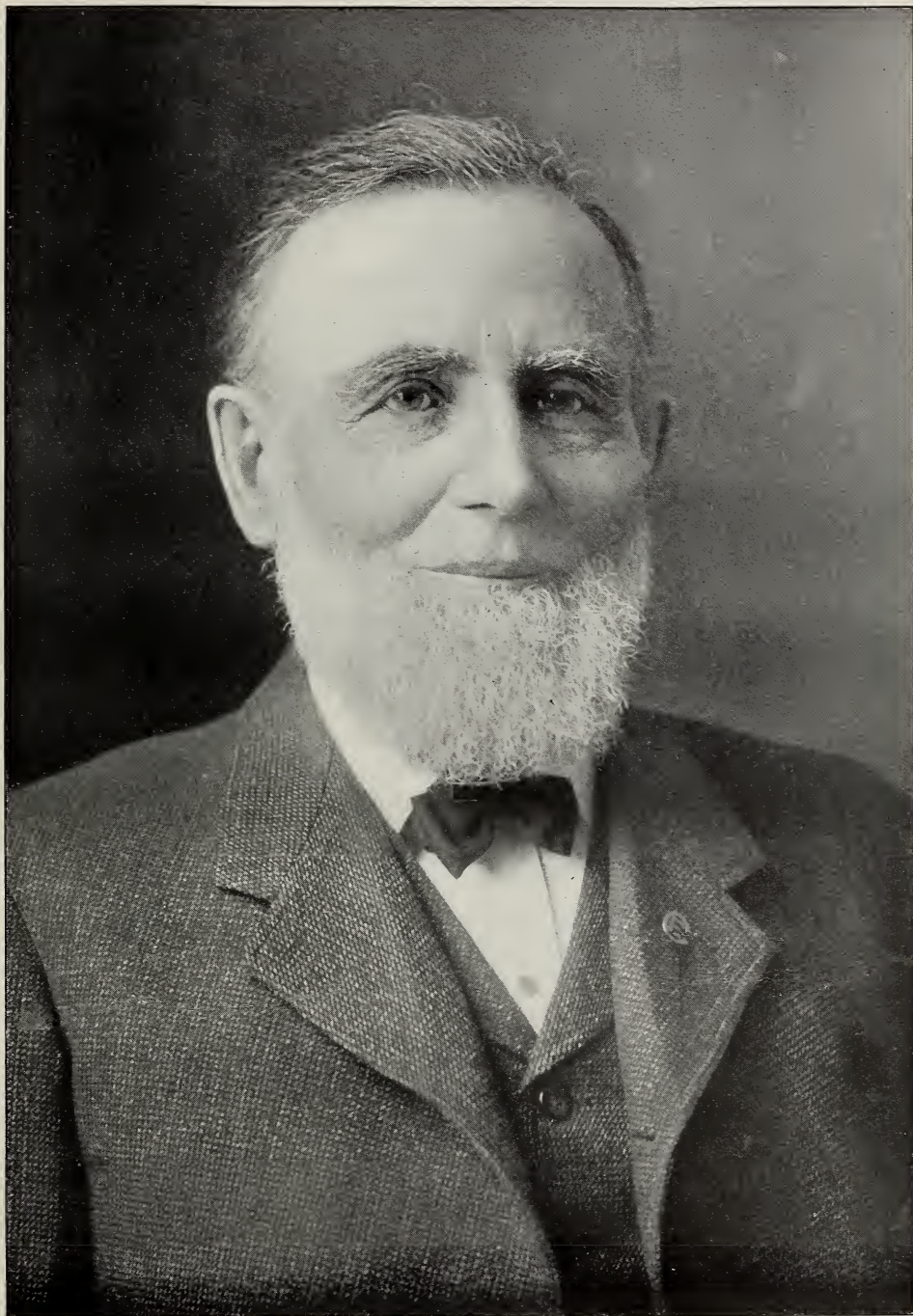
Do Bees Build on Them First?

BY R. L. HALE.

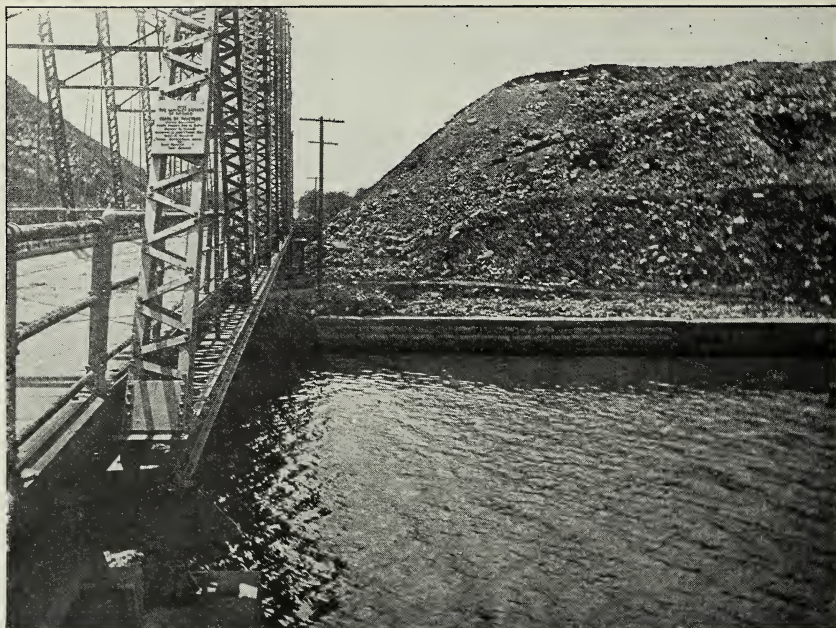
You wonder, Mr. Editor, whether it is not unusual for bees to build on the bottom starter first, when such is used, page 643, May 15. Last season we used on half of our colonies a $\frac{3}{8}$ -inch bottom starter, and over half of them were built at the bottom first, some not at the top at all. Of course, we had no honey-flow. But I find it the case always in the fall at the close of the honey-flow.

In the repeated discussion as to whether or not it pays to use a bottom starter, I will give the plan which I have used with half of my bees for four years, and altogether this season. I use a three-inch starter at the top. At the bottom I take a top starter and fasten it with a hot plate, and then hold it firmly in place and cut it off with the wax-plate, thus leaving a starter of about $\frac{1}{2}$ inch. I never have a crooked section from the fault of the starter.

Laplata, New Mexico, May 24.



DR. C. C. MILLER.



THE CHICAGO DRAINAGE CANAL, SHOWING THE BRIDGE AT ROMEO, ILLINOIS, AND THE BANKS, ON WHICH SWEET CLOVER IS MAKING GREAT HEADWAY.

SWEET CLOVER.

How this Honey-producing Plant Grows on the Banks of the Chicago Drainage Canal.

BY J. L. GRAFF.

Sweet clover, of the white variety, is found growing in such profusion on the towering banks of the Chicago drainage canal, between Chicago and Joliet, that apiarists are much encouraged in their attempts to produce honey in paying quantities.

Before this great sanitary canal was built, a large amount of wild clover grew in the Des Plaines Valley. It all but covered the right of way of the railroads traversing the region, and spread out to a wide expanse of prairie land. When the constructing gangs with their ponderous machinery of all kinds moved down the valley, digging out the earth and stone, and piling it mountain high on one side or the other, much of the clover growth was dug out or covered up.

Within the last few years, however, it has been noticed that the clover began appearing on the rough banks until at this time there are hundreds of acres of it. When the bloom comes, the bees get busy, and, as may be conjectured, they lay in a rich store of as fine a product as may be found in any milk-and-honey land in the world.

The accompanying pictures were made at Romeo, Illinois, and near the home of John J. Keig, a poultry-honey man. He breeds and raises Buff Plymouth Rocks, and also owns ten colo-

nies of bees, from the work of which he recently sold 500 pounds of honey. Other property owners in the valley keep bees that find the rich bloom on the canal banks and in the adjacent territory. Quite recently the drainage board had its attention called to the increase in the clover acreage within the sanitary district, which by this time embraces 260 square miles of territory, and no one at this time is able to say that the great corporation may not turn to producing honey within a bailiwick in which by this time it has expended \$53,000,000.

Ravenswood, Ill.

THE TROUBLES OF AN AMATEUR BEE-KEEPER.

Moving Day.

BY F. DUNDAS TODD.

A Danzenbaker hive requires little preparation for moving, as all the frames are firmly held in position. In the day time I fastened all the bottom-boards and supers to the hives with staples, then I nailed on top of each super three pieces of wood, straight on the one side but curved on the other. They were roughly shaped with a hatchet out of inch boards two inches wide. Over these I placed mosquito-wire netting, the pieces being large enough to overlap by a couple of inches all round. The margins were bent on the sides of the hives, and held in place by strips of quarter-inch wood fastened with finishing nails. The purpose of this covering was to give the bees

plenty of clustering room and especially plenty of ventilation. The cover was placed over all; and, being well above the edges of the hive, tended to cool off the bees during the night, which I felt would be a good thing, as the bees would probably be less inclined to hang out as they had been doing.

Bee-day in my yard was generally Sunday, and it was no unusual thing for two dozen of my neighbors and their children to be grouped round the hives watching with keen interest the various manipulations. The farewell scene, however, occurred on a Saturday forenoon, and so my gallery was limited to a circle of ladies; but they were treated to an unrehearsed performance that was more than funny. My boy, as usual, occupied the role of general assistant, and in such hot weather his raiment was as scanty as the laws of Illinois allowed. Notwithstanding frequent past experiences he always forgot to tie the bottom of his trousers; and since he wore no underwear, any stray bee that wandered above the region of his shoes had a splendid opportunity for quick business. Again and again I would admonish him, reiterating the rule about bees always crawling upward.

On this occasion we were very busy, and I was astounded to see him limp gingerly to the back porch, where he dropped on to the top step, leaned his back against the wall, and stuck his feet over the top railing. The position looked both uncomfortable and peculiar, so all the grown folks gathered round him to learn the cause of his trouble. We found him carefully holding up the slack of his trousers just above the knee, and after repeated questioning he sadly informed us that at least three bees were roaming at large in the domain of his nether garments; that he was

afraid they would sting, and he wished they would, just to get the anxiety off his mind. But why this attitude? Bees crawled up, surely we knew that; and since they had ventured as far in one direction as he wanted, he was reversing himself so that they could start the return journey; but if his feelings were any indication they were now pursuing a downward career, that was the same as upward to him. I proposed to kill each one with a swift slap above the cloth; but, no! he was sure the dying wretches would sting, and it was his leg, not mine. The good matrons gave their best advice, but this was no ordinary infantile ailment, so we awaited developments and all joined in a hearty chorus as three separate and well-defined exclamations passed his lips, each indicating a lessening of his anticipatory pains, but decided augmentation of his physical sufferings. In due course he fastened all slack material round his ankles, and returned to his labors. But even now you can not convince him that bees *always* crawl upward.

My son and I were up at four next morning. We found hundreds of bees hanging outside; but the smoker drove many in. In front of each entrance we fastened wire netting with strips of wood. We figured we could do all that was to be done at this stage in about 15 minutes; but one thing after another lengthened out the time to over an hour and a half. The wagon was pulled close to the hives; but as many bees were flying I told the driver to take his horse about a block away. Once loaded, my boy and I pulled the wagon about fifty feet at a time and proceeded to kill as many of the flying bees as we could, as we feared an attack on the horse might precipitate a runaway.

Just before starting I sprinkled all the hives



HIGH BANK OF THE CHICAGO DRAINAGE CANAL, SHOWING VEGETATION, MUCH OF WHICH IS WHITE-SWEET CLOVER.



SHEPARD'S APIARY OF HOME-MADE HIVES.

with water from a watering-pan so they should not want for water; and, besides, it would tend to keep them cool. Of course, they were now clustered under the netting, and reminded me greatly of a big-sized box of black currants.

The day proved to be a very hot one; but I shaded the bees as much as possible and sprinkled them with water every half-hour or so. The trip of eleven miles took nearly four hours. The driver was a colored boy, evidently very fond of a horse, and on my hinting we might go a little faster he confided that the steed was "powerful slow," but if we gave it time it would surely get there. For about an hour before we arrived, we were threatened with a terrific thunderstorm, and I felt very anxious, as we were far from shelter most of the time. However, the storm circled round us and happily kept off until about an hour after we had placed the hives in their new location.

It took but a little while to place the stands, unload the hives, remove the netting, and make every thing shipshape. To make the bees take full notice, smoke was freely used, and boards placed in front of the entrances.

Next afternoon the purchaser called me up on the telephone to tell me the best hive had swarmed, and wondering "what in thunder" he should do about it. This was a proposition he had not bargained for. I told him what to do, and I heard no more about these hives until months afterward.

All bee-keepers know that 1907 was a poor season generally; yet these hives gave my successor, after July 17, 210 sections of honey, and in

addition four swarms. The news came to me from my friendly rival in a free confession that again I had bested him, he having secured 127 sections as against my total of 222 with 45 pounds of chunk honey extra.

Again the student with the Danzenbaker had whipped the practical man with the Dovetailed hive. Query: Wherein lay the secret of success?

And so, you will think, here ended all my troubles with bees. As a matter of fact, I had for the moment lost my pleasure, but I carried westward to the Pacific coast one incessant thought—why did these three hives develop so unevenly in the spring, and so unexpectedly? No, I had a fine lot of bees, both at the beginning of winter and the end, with an extra large quantity of stores. "With millions in the house," why did it not easily outstrip the other two? No. 2 was the weaker of last year's new hives, but laid in plenty of sugar stores, though not nearly as much as did No. 1. No. 3 was in fine shape so far as bees were concerned, but did not take down any thing like a sufficient quantity of sugar and water food. I was not surprised that it lagged in the breeding-up race in the spring; but the other two got on my mind, and so day and night I cogitated over the facts from as many angles as I could, but always without a satisfactory answer. Mr. Alexander, in one of his luminous articles in *GLEANINGS*, brought relief to my tormented mind. Hive No. 1 was honey-bound—that is, it was so "chuck full" of stores that the queen could not find enough empty cells in which to lay eggs. The remedy, had I known it, was to use the extractor. Benton, in his book, recom-

mends the same procedure; but though I had read his advice many times last season, I never suspected the principle was applicable to my own case. The best way to open one's eyes is from the rear; then we can see with the mind as well as the brain.

Hive No. 2 had sufficient stores and plenty of cell room for the queen, and therefore came along at a gallop. It exemplified the beauties of the happy medium, the too often unattainable balance of conflicting conditions. No. 3 was strong in bees but weak in stores, so "played safely."

I am free to admit that possibly—nay, probably—my solution is all wrong; but at any rate I have a working theory to guide me in spring manipulation—something I never had before, and I have always found a wrong theory more useful than no theory at all. With a theory one is always watching facts closely to see how they square with it; without a theory, one pays little heed, and soon forgets. So, thank goodness, I am in possession of a theory, but I am perfectly willing to discard it for one that looks better. Anyhow, this spring I will note carefully the ratio between the honey supply on hand and the cells available for egg-laying by the queen, so that I may learn what constitutes the ideal balance, for such must exist. I will take care that my bees have "millions of honey," but not necessarily "all in the house." A reserve store in the barn may probably be better.

Medford, Oregon.

THE BRITT APIARY, JACKSONVILLE, OREGON.

BY F. DUNDAS TODD.

In the early fifties, when Southern Oregon was attaining notice as a mining camp, there settled in its most important town at that date, a young

Swiss photographer by the name of Britt. He attained both fame and financial success in his calling, dying only a couple of years ago. But he is better remembered as the maker of the Britt place which is one of the show places in this part of the State.

True to his blood he chose a barren knoll for his home, and then proceeded by the liberal use of natural taste, brains, and water to convert it into a wonderful garden in which not one square foot of ground is unproductive. Forty years ago he added bees, and until the day of his death he was never without a fair-sized apiary. It is now managed by his son, who has about 40 hives of hybrids, about the only kind possible in this part of the world at this time where there are many keepers of bees but no bee-keepers.

Medford, Oregon.

HOME-MADE HIVES AND COVERS.

Big Honey Yield from Alsike Clover.

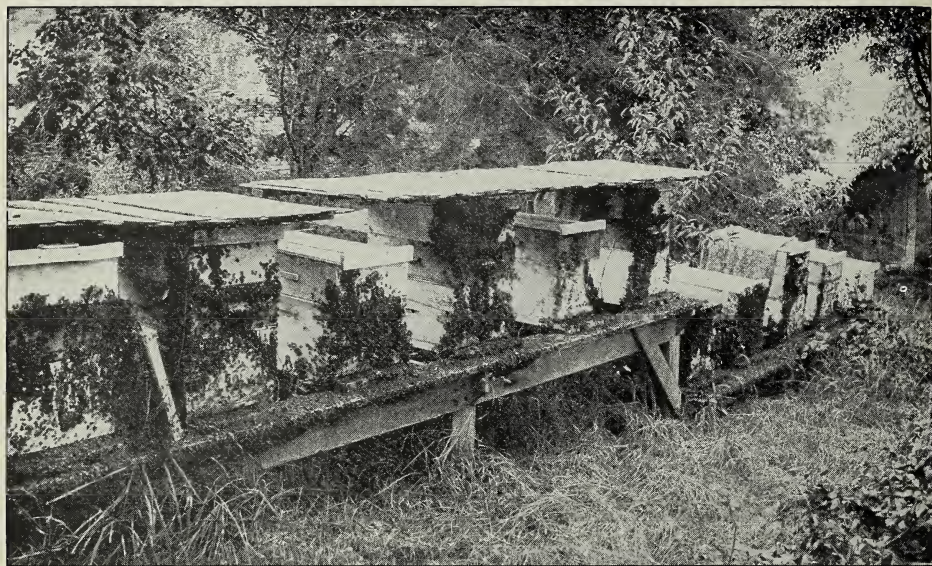
BY A. D. SHEPARD.

The hives shown in the engraving are home-made with the exception of the inside furnishings, which came from the factory. The most of the extracting-supers are also the "saw-and-hammer" brand, but they are not satisfactory, for they do not hold their shape. They get out of square, and warp away from the end pieces, making openings that invite robbers. My preference for home-made hives is to halve the ends and sides, and nail each way, which makes a strong corner.

The covers are patterned after the regular metal covers, except that, instead of simply three strips across the top, this rim is covered with wood, and on top of this is the metal cover. The heat of the sun does not strike through this as it does through the galvanized iron alone.



THE BRITT APIARY, JACKSONVILLE, OREGON, THE OLDEST IN SOUTHERN OREGON.



A HOT DAY IN JULY.

A super-cover is used with this metal cover. I nail strips $\frac{3}{8} \times \frac{1}{2}$ inch on one side of this super-cover, forming a tray in which I place several pieces of felt paper (such as is used under carpets), and tack one piece on the under side, as I use cloths or quilts over the frames. This cover makes a good heat-retainer, and helps to ward off the direct rays of the sun.

My home yard of 75 colonies springed badly in 1907. Several died, and I doubled up, somewhat after Mr. Alexander's plan, so that I had 35 colonies for the harvest. I took 3000 lbs. from them. A nice piece of alsike helped "a heap," giving me a crop of 5000 lbs.

I did all the work alone, except the help of a man six days during extracting.

River Falls, Wisconsin.

BEEES CLUSTERING OUT ON THE FRONTS OF THE HIVES.

Work Suspended Because of a Crowded Condition

BY E. BRITT.

On a hot day in July, 1906, when the thermometer reached the exceptional point of 104° in the shade, my bees were clustering on the fronts of the hives as shown in the engraving. I thought the heat alone was the cause; but upon investigation I found that the supers were crammed full of honey, and in two instances the bees were building comb on the outside. I keep from 30 to 50 stands, and it has never been necessary to feed or to provide any protection during winter. I have never had a failure of a honey crop. The hives are placed above the ground to keep the toads from meddling.

Jacksonville, Oregon.

[You do not say whether these bees swarmed under the conditions shown and described. If they did not, their non-swarmling tendencies ought to be encouraged. No wonder they clustered; and when they were compelled to build combs on the outside for want of room the wonder is they didn't swarm too. Perhaps they did.—Ed.]

THIRTY YEARS OF EXTRACTED-HONEY PRODUCTION.

BY GEO. W. MORRIS.

My apiary is run almost exclusively for extracted honey. In 1906 I took 4800 lbs.; in 1907, 7500 lbs. I realized \$1100 for the two crops, besides using about 1000 lbs. at home in the two years. Since I embarked in the bee business, thirty years ago, there have been at least ten years when I got no surplus honey, and even had to feed in some years. I am trying the divisible-brood-chamber hive this season. I believe in large hives, young and prolific queens, good management, and eternal vigilance in order to succeed.

I have had to do about all the work in the apiary myself, as my only son is afraid of bees, although he makes a good hand at the extractor. He can uncap and extract as fast as I can bring in and return combs to the hives. The most we ever took in one day was 600 lbs.

The cart shown in the engraving in front of the building is used to haul the honey to the extracting-room, and it is a very handy vehicle to have about the yard.

Cornishville, Ky.

[A good hand-cart in a bee-yard where the ground is reasonably level is a great labor-saver. If the ground is uneven, a wheelbarrow is better.—Ed.]

THE PROPER CARE OF EXTRACTING-COMBS.

Does it Pay to Give the Bees Wet Combs? Feeding Colonies for Winter; Thick Sugar Syrup Recommended.

BY E. D. TOWNSEND.

I formerly practiced spacing our combs after the last extracting, and criss-crossing them out of doors for the bees to clean up, as this was the way some advised. In some cases a part of the combs would not be cleaned by the bees as usual. When these were given to the bees to be filled the next season, we never could see any difference in the quality of the honey, whether the combs were cleaned or not. Some of the honey left in the combs candied, while the rest apparently disappears; at any rate, none shows up in the honey at extracting time. I take the precaution to give combs, from which dark honey had been extracted, to the bees, before the season opens, as I have explained heretofore. I used to think I was doing the bees a favor by giving them these wet combs to clean outdoors; but now I'm very sure it is an actual damage to them rather than a help; for with their mad scramble for the honey, they use up valuable vitality, and this, too, at a vital time late in the season, when all their strength is needed to carry them through the winter. Then I would rather have the honey left in the combs than have that dirty purging smeared over the stories and frames. The bees are so eager for the honey that they overload, thus causing them to purge before taking wing.

Upper stories set back on the hives are cleaned all right; but the honey is stored right back in the same combs, so this method is a failure.

Toward the end of summer, or in this location early in September, bees begin to curtail brood-rearing. When this is going on, and as the

brood-nest begins to grow smaller and smaller each day, instinct teaches the bees that a period of rest is in store for them. At this time they manage the interior of their hive as if they had full knowledge of the rigorous winter that is in store for them, for, as the brood hatches out for the last time in the fall, they busy themselves carrying honey from the outside combs and filling in those cells made vacant by the hatching of the bees. This carrying-in process of honey from the outside combs is continued until there is as much as ten pounds of honey placed in these empty cells in the middle of the brood-nest. If the honey in these outside combs is of good quality, all is well; but if it is of an inferior quality, and the colony does not winter perfectly, there is likely to be trouble.

Knowing of these conditions, and of the instinct of the bees, we take advantage of this period to feed all colonies that are short of honey for winter stores. If the honey in these outside combs is of an inferior quality we have fine results by feeding every colony ten pounds of sugar syrup. After the last extracting, the yard is gone over and the colonies "hefted" to see if they have stores enough to last them until the main honey-flow of the next June. Any colonies falling short of 25 lbs. are marked "short," and the amount of stores necessary to bring the weight up to 30 lbs. is marked on the hives. In estimating the amount of stores needed, but few colonies are looked into—just enough colonies are looked into to get the run of how they are as to amount of stores. Colonies with very old combs are much heavier than new swarms; and taking this into consideration it does not take long to get on to the knack of estimating very correctly, since all the new colonies are marked.

Knowing the amount of stores needed, it is best to buy 15 to 20 per cent less of granulated cane sugar than the amount that is to be fed. The



APIARY OF GEO. W. MORRIS, IN CORNISHVILLE, KY.

thicker we can make the syrup, and get the bees to take it, the less sugar it will take to make up the shortage. While bees will take a sugar syrup thicker than three parts of sugar to two of water, we have had rather better results with this portion of each. This makes a syrup that weighs in the neighborhood of 11 lbs. to the gallon; and as good honey weighs 12 lbs. to the gallon, there is but one pound of moisture to the gallon for the bees to evaporate. Of course, there are other losses, so if the colony needs 20 lbs. of stores, more than they already have (10 lbs.), they should be fed 25 lbs. of the syrup. This would put it in good shape, and it would not need looking after again, in regard to stores, until the white-honey flow the next June.

In making syrup of granulated sugar we use a boiler large enough to cover the whole top of the stove. This is made of galvanized iron, and is what we use to melt four 60-lb. cans of honey at a time. A wash-boiler might do, but would not be so fast. We weigh in the water; then, as the water comes to a boil, add the sugar, keeping the contents of the boiler well stirred, after the sugar is added, to prevent it from burning to the bottom. As soon as all the sugar is melted we empty it into a tank with a gate at the bottom, which is elevated, in order to run the syrup from the tank, to a 60-lb. honey-can on the scales. We set the scales to weigh 55 lbs. net to the can. This will fill the can about the same as 60 lbs. of honey.

The syrup is drawn to the out-yards in these 60-lb. cans, and is not weighed again. We feed in Miller feeders that hold 20 lbs. Four or five tin pails are provided to use in feeding. We weigh 10 and 15 lbs. of the syrup in these, and mark the levels on the sides of the pail. The combination of these two weights will make any weight we need, and it is much more convenient than weighing the second time, besides being accurate enough for the purpose. As we do not feed a colony less than 10 lbs., the hives are marked 10 lbs., 15 lbs., 20 lbs., 25 lbs., and 35 lbs. short, the latter weight showing that the colony has nothing but empty combs. The colonies marked to be fed from 10 to 20 lbs. are fed all their allowance at once. The few that are marked to be fed 25 to 35 lbs. are given their additional 5 to 15 lbs. as soon as their feeder will hold it. To expedite matters, the colonies that have to be fed most are fed first; so if any have to wait, it will be those that do not need so much, and may be fed when the first-mentioned colonies are getting their second feed.

We buy and keep, for the purpose, shallow supers with strips of tin nailed on the lower inside ends for the feeders to rest on. When not in use they pile up to good advantage, and, with a hive-cover on top, are kept away from the dust and flies.

Remus, Michigan.

[We wish to place strong emphasis on the statement of Mr. Townsend, to feed the syrup *thick*, and, we may add, give it all at once, or at most in two feeds. If possible, give it all in one feed, sufficient to meet the needs of the colony until the following summer. We fed last year, in small driblets, syrup half and half; but we found at two of our yards that the colonies that were strong in summer dwindled very rapidly in the

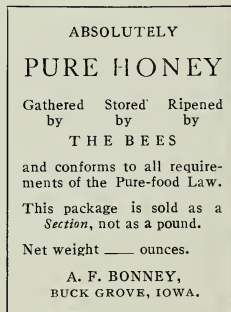
fall. The effect of slow stimulative feeding was to use up the vitality of the bees just at a time when we should have had a large force. In former years we fed *thick* syrup without any reduction in the strength of the bees.

Recent discussion in these columns has practically shown the advantage of thick syrup for winter feed, and in one large feed. For this purpose, feeders capable of holding as much as 25 lbs. are desirable. As to the feeder, any standard construction will answer very well. Even a large tin pan with wet cheese-cloth placed on top will give excellent results.—Ed.]

COMB HONEY SOLD BY THE SECTION INSTEAD OF BY WEIGHT.

BY A. F. BONNEY.

I recently wrote the following letter to the Board of Food and Drug Inspection of the Department of Agriculture: "Inasmuch as liquor-dealers are still allowed to sell 'short' quarts, simply being required to put up a notice that 'All bottled goods are sold by the *bottle*, not by *measure*,' would the enclosed label conform to the law?"



I based my question on the fact that bee-keepers have used practically the same size of section ever since the section was invented. I also asked particularly how we were to tell that *comb* honey meets the requirements of the law, as to moisture and sugar, when it is sealed, inasmuch as one might test 50 per cent of the stock on hand and find it all right when the rest would run over or fall short. To this I received no reply, but the following letter shows the opinion of the Board in regard to the label.

Buck Grove, Iowa, May 1, 1908.

Dr. A. F. Bonney:—Replying to your letter of the 20th instant, I regret to advise you that I am not authorized to approve or criticize labels submitted in connection with the enforcement of the Food and Drugs Act of June 30, 1906, as you will note by reading F. I. D. 41, enclosed. As a personal opinion, however, I would say that the use of the expression, "This package is sold as a *section*, not as a pound," in connection with your honey, would not be in violation of the act. Your attention is drawn to regulation 29 (Circular 21) in which you will note that a statement of the weight of a food product is not required to be given on the package. I have examined the label which you set forth in your letter; and if the honey on which this is to be used fulfills the requirements of the standard for honey promulgated by the Secretary of Agriculture, and which is found on page 11 of Circular 19, enclosed, there would be no objection to its use, with the exception that you would be going too far to designate the article as *absolutely pure*.

F. L. DUNLAP,
Acting Chairman.

Washington, D. C., April 24.

COMB HONEY PRODUCED WITHOUT SEPARATORS.

How to Make the Bees Occupy the Whole of the Super at Once; Keeping the Brood-nest Free from Surplus Honey; Preventing Swarming.

BY ROLAND SHERBURNE.

The reading of Mr. Hand's article in Dec. 1st issue, page 1503, on the size and shape of sections, prompts me to give something of my experience. I have raised tons of comb honey without separators—in fact, I have never used them. It is to be hoped that some one will find a better plan than any we now have; but if I had to use separators to produce good comb honey I would give it up and run for extracted entirely.

Now, Mr. Editor, I want to protest most emphatically against extracted-honey producers telling us how to produce comb honey. The latter is a science in itself, and has little in common with the former. No man is in position to give advice on this subject unless he has made a success of raising comb honey himself, or at least has been intimately connected with it. Again, in extra good seasons we may get inflated ideas that will require the next two or three years to get rid of. My experience has led me to advise large hives and plenty of room when running for extracted honey, and a small brood-chamber as a working basis when running for comb honey.

I want to say a word in favor of the much used and much abused $4\frac{1}{4} \times 4\frac{1}{4}$ 7-to-the-foot section. One trouble with section-supers and brood-chambers is, there are too many misfits. Some put a T super or a super without separators over a ten-frame Langstroth body, and expect fine section honey. The result is nearly always a failure. Such large hives should always have a section super with separators, so if the bees have a mind to commence somewhere in it during a good honey-flow they *must* build straight combs. He does not blame the large brood-chamber—oh, no! He condemns the super. A year or two ago some one wrote that the T super was the poorest of all he had tried. I think he told the truth; yet I would like to add that I presume his super and brood-chamber were a miserable misfit. If a man wears a pair of boots that are too large or too small he will surely blame the boots for hurting—not himself for wearing them. My experience has been that an eight or ten frame full-depth Langstroth brood-chamber is too large as a working basis for any comb-honey super holding 28 sections without separators, to give best results.

I use a modified T super with $\frac{3}{4}$ stationary cleats on the sides for bee space outside the sections, and bodies with closed-end frames that meet the requirements in our locality as nearly as I can make them. In fact, I am working along different lines at the same time. I handle hive-bodies and half-bodies as horizontal divisible brood-chambers. I never handle frames in the brood-nest.

Thirteen years ago I commenced using T supers without separators, separated with wood-zinc queen-excluding boards from hives with eight frames six inches deep. If two swarms went

together, so much the better. The results were great; nearly all the honey was stored in the sections, which were often filled first. However, there was not enough honey left in the brood-chamber. The hive was too weak in bees and honey at the end of the early flow to recuperate for the fall flow if we had one. These six-inch bodies were to be used double as a brood-chamber the next spring and summer; but two of them proved too large, as a rule, for best results.

I next tried eight frames, 7 in. deep, inside measure, thus adding the capacity of one L. frame. Such a body is large enough for an ordinary queen to keep filled with brood without adding an extra seven-inch body.

Here in Iowa I always prepare for two honey-flows whether they materialize or not—the white clover and fall flow. In the spring I double up all weak colonies until all are reasonably strong and I get them ready for the white clover. My aim is to start the bees to work in the sections without their getting the swarming fever. In this I am fairly successful, though not wholly, of course. I find that, if I can get the bees hard at work in the sections at first, then giving the right kind of room at the right time, I never have more than 25 up to 40 per cent of the colonies run for comb honey that swarm in the worst of seasons.

I am much taken with Mr. Hand's system, and shall try to work it in as fast as practical the coming year by combining his and mine. I hope to reduce swarming to a minimum.

I also have 100 or more half-bodies with extracting-frames $4\frac{1}{4}$ inches deep, inside measure. I intend to fill as many more as I can of these next season, and I shall use all of them in connection with the seven-inch frame. These shallow extracting-supers with $4\frac{1}{4}$ -inch-deep frame I consider very necessary in a yard run for comb honey, for they can be used in many ways above the brood-nest with a queen-excluder between to give more room and to hold odds and ends of honey before the main flow begins or they may be used, when necessary, to enlarge the brood-nest and give the queen more room, but especially to keep honey out of the brood-nest. The old way of adding more full-depth combs does not take or keep honey out; it only gives more room for plugging. The uses to which these shallow half-bodies for extracting can be put have often been told in GLEANINGS, so I will not speak further in regard to them.

A queen that will not keep eight seven-inch frames reasonably full of brood in season is not worth keeping; but some need more room, and they must have it as soon as needed. I make it a rule not to put on a super of sections until the colony is strong enough to fill all or the greater part of it with bees at once. They will soon be working in all the sections, and these will grow naturally and evenly. This is the secret of success in using sections without separators. We are told to put on sections when the bees commence to whiten the combs; but unless the colony is strong the brood-nest will be plugged with honey, and we know what that means. I prefer putting a half-body over a queen-excluder to hold the honey, and waiting a few days. When ready I place the super of sections under the half-body and over the queen-excluder, and then there will

be no trouble about the bees entering the sections. In a short time I take off the half-body. When possible, by interchanging the sectional brood-chambers, I place the super of sections over the center of the brood-nest. In any event I want no honey between the brood and the top-bars next to the sections unless it be in the outside frames.

I find that seven to the foot is the limit in width for sections to use without separators, and am quite sure a narrower one would be better. I do not think this section should be used with separators, for it would be too light in weight for the trade. I like it because it comes so near averaging 1 lb., because I think I can secure more honey and with less work by this system in my locality; but I am ready at any time to change when I think it will pay.

I am glad to know we have such an able exponent of up-to-date bee-keeping as Mr. J. E. Hand. With his method of handling hives he is bound to make a success of these trial sections. Let us have all the results we can of his valuable experiments.

Lone Tree, Iowa, Dec. 12.

HEADS OF GRAIN FROM DIFFERENT FIELDS

WHY WAS THE QUEEN NOT KILLED?

I have only one colony. About April 1 I found this to be queenless—hopelessly so, but with plenty of bees and stores. As to requeening I was advised to give a frame or two of brood and to introduce a queen later on, for to give a queen to a hopelessly queenless colony at this season was considered an uncertain procedure. This seemed like good advice, so I procured from a near-by friend two frames of brood with a quantity of bees on each frame, also the queen with them, intending to hold her caged and introduce later. In placing these two frames in my hive they were examined *very* closely; but I failed to find the queen, and concluded she was left, with many bees, in the box in which I brought them. Such was not the case, and the matter remained unsolved, on the supposition she had taken wing in the transfer. When I closed up my hive there commenced a battle royal in which I judge every strange bee was killed. This was April 17. On April 23 I examined my hive and found brood hatching out, but no queen-cells—plenty of eggs, the queen I had brought, and all going well. A full week's work had been put in. To make the story short, is it not likely that the turmoil caused by the battle had diverted the bees from the tendency to kill that queen until she had acquired the hive odor sufficiently to make her acceptable to them? This is the only construction I put upon it. A witness of this operation said at the time, "A hundred to one the queen is not in that hive; or if she is, she is killed."

Pottstown, Pa., May 22. EDWARD LESTER.

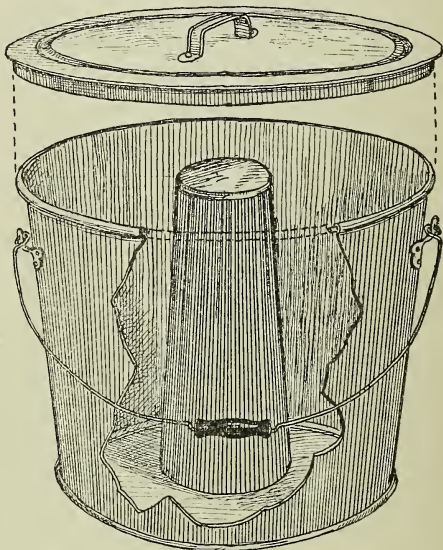
[A very good way, and one of the best, to introduce a queen is to give her with a couple of frames of brood and bees to the queenless colony.

Such colony, if it is hopelessly queenless, and the queen is placed between the given frames, will usually accept it if it be a gentle strain of bees. If it be a cross one, it is a doubtful method.

In the case above recited we should judge the bees were hybrid, black, or a cross strain. It is then necessary to use smoke in uniting a strange lot of bees with them. In this case it might or might not have prejudiced the safety of the queen. It is a wonder, in the general free-for-all fight, that the queen was not killed. The bees were so intent on killing each other that they possibly did not notice her until she had acquired the same colony odor or the odor of the surviving belligerents. There are queer things that happen in bee culture, and this seems to be one of them.—Ed.]

LIQUEFYING HONEY ON A SMALL SCALE WITHOUT DANGER OF OVERHEATING.

On page 145, Feb. 1, occurs the sentence: "With ordinary methods there is danger of scorching the honey on the outside of the mass while the center is still granulated." I have a plan which I thought of before reading the article and sentence quoted, and which is expressed in words found in the second paragraph, viz.: "There is a method that almost any one can fol-



A HONEY-LIQUEFIER; A HOUSEHOLD UTENSIL THAT CAN BE BOUGHT AT ANY LARGE HARDWARE STORE.

low, whereby a great difference between the temperature of the center of the granulated blocks and that on the outside can be avoided." Perhaps you have seen the tins (a tube running up the middle) used in making "angel cake." Well, we have a taller tin here in Boston, used for making brown bread, plum puddings, etc., with a cover on it that can be fastened. The tube is closed at the top (probably to keep water from running over into the interior and contents of the tin. We have just tried the thing, and succeed-

ed in liquefying honey, which was very thickly candied, in a very few minutes, using only moderate heat. In fact, as Mrs. Levens says, "It worked finely." There is a tight-fitting cover to the can.

The same principle could be made use of in constructing a can on a larger scale.

Malden, Mass.

JOS. B. LEVENS.

LACK OF ENERGY DUE TO TOO MUCH HONEY IN THE HIVE.

Mr. Editor:—Noticing your editorial on page 742, on "diagnosing colonies by the bee-flight at the entrance," I am constrained to make a suggestion. In making a comparison of two colonies, you speak of one with a moderate amount of brood and a large amount of honey; but the bees, though a good force, are not flying much—but *why*, you do not know. Please allow me to ask why they should fly in the case you mention. There is no place to put stores if they brought them. Now, you just enlarge the brood-chamber by putting in empty comb; or put a surplus body on top, and scratch a few of the combs that have hard cappings that have gone over the winter, then notice the difference in the conduct of those bees. It is not the fault of the bees, but of the manipulation of the hive in the case mentioned.

WM. M. WHITNEY.

Evanston, Ill.

[In the case under consideration, of the colony with a large amount of stores and little activity at the entrance, we see, on looking up the reference, that we gave a wrong impression. The colonies in question had plenty of storage room; but relatively they had much more than those that were busily at work. The lack of energy, while it might have been due in part to the cause you ascribe, was more due to the queens. There were only three in all, and they did not do any thing all the season, and we have since re-queened them.—Ed.]

MORE EXPERIENCE WITH BEE PARALYSIS.

On page 1568, Dec. 15, 1907, you asked to hear from other subscribers about the trouble mentioned by Mr. Youngman. Ten years or so ago I noticed a few shiny bees in one of my hives, which the other bees seemed to be worrying. Afterward this hive cast a big swarm, and the trouble seemed to vanish. Next season, in the early part, this swarm developed just about as Mr. Youngman says his did. There were plenty of shiny trembly bees as well as those not shiny, but which were greatly swollen on the inside and outside, and out on the rock in front. The colony was depopulated so fast that the bees were unable to store honey except for themselves. I examined their brood, and it appeared to be perfectly healthy. The other bees nosed around the affected bees, and it spread to other hives, though not to any great extent, so far as I could see, only a few bees among other hives being shiny. I sulphured this badly affected hive and burned the frames, brood, and honey. I was afterward told the trouble was paralysis. I have not had any as badly affected since, though there is more or less of it among my bees, and it does not seem to prevent them from building up strong for honey or to swarm, as they may be inclined.

In a few other colonies I have noticed some of the bees were swollen, and in one of these I found the queen outside, apparently paralyzed. I warmed her up, and she seemed to be about right. I then put her back, but afterward found her outside dead, if I remember right. Afterward I put the frames and bees into a super over another hive without any harm to the other bees so far as I could see. The stronger a hive gets, the less noticeable the paralysis becomes.

Alpine, Cal.

C. E. FOSS.

[It is generally believed that bee paralysis is a constitutional disease—that is, that it comes from the queen. Certain it is, in many cases at least, the removal of the queen effects a cure, but not always. In advanced stages the disease may be transmitted through the bees after the queen has been taken away. The brood or the comb does not, apparently, carry bee paralysis, providing all the bees are shaken or brushed off. All such combs can be given to healthy colonies.

Mr. O. O. Poppleton, of Florida, who has had a very large experience, advises, after the brood has been given to other bees, to brimstone the affected colony, as he thinks it a waste of time to try to cure the sick bees.—Ed.]

DENTS IN THE THORAX OF THE QUEEN NOT DETRIMENTAL.

Referring to the May 15th issue, page 621, I would say that we have had a few queens with dents on top of the thorax, and have not noticed any incapacity in laying. By chance the queen that we chose to breed from has been marked with a large dent since the spring of 1907. If you think such a mark a defect, or a detriment in the effect on the daughters, then we would not breed from her. We selected her because her color is an attractive dark leather (not yellow); the workers are three-banded, and the most gentle we have in our apiary. They also build comb with white cappings.

Hemlock, O., May 20.

P. BIESEMAN.

[If the dent in the thorax of the queen does not interfere with her egg-laying she would, of course, be all right for any purpose.

According to our experience, the leather-colored strains are much superior to the bright, yellow stock. Nearly always more gentle, they are hardy, and good workers; but, unfortunately, the trade seems to prefer the extra-yellow stock. We are discovering that many are going back to the darker yellow. It is the original type of Italian before it had been tampered with by man.—Ed.]

HOW TO ADD EMPTY SUPERS ON A COLONY STORING HONEY.

Do you leave the supers on after the cells are capped? I put one on this spring; and when it was about half full I put one under it and then the third, but they seemed to be very long about capping it, so I took the two top supers off and took what was well capped, and the others I put into one super and set it back. Was that right?

Mineral Ridge, Ohio.

JNO. WAGGONER.

[Comb-honey supers should be taken off as soon as filled. Your plan of handling supers as outlined in your letter was nearly correct. Dur-

ing the fore part or the middle of the honey-flow the empty super should be placed *under* the one partly filled. As the season begins to wane, the empty one should be placed on top, for it is far better to get one super completed and well capped over than to have two partly filled, neither of them having any capped combs. In the case cited you should not have given the third super as soon as you did. The first super should be well capped over before giving a third.

As the season closes, or comes to a close, one can, where there are only a few colonies or a few supers to handle, take out the filled sections, placing all the unfilled ones in one super to be placed back on the hive; but in large apiaries this is impracticable, for the honey can then be handled only by full supers.—ED.]

HOW TO TELL WHEN A COLONY HAS SWARMED.

I have a colony of bees that, so far as could be seen, had no queen, though it has been making much honey. It has been lying out on the alighting-board several days. I have looked several times for a queen, but could find none. The colony had considerable capped brood, but no unsealed. On 27 I found three queen-cells, and saved one and destroyed all others. This morning the colony swarmed and went away. On examining the hive I found what I thought—the queen hatched from the recent cell.

I have two other colonies in the same condition—not so much capped brood as the other, but no signs of brood in the larval state. Had the first a queen? Have these other two a queen? If so, why don't they lay, showing signs of their presence? M. F. SAULE.

Crestline, O., July 2.

[It is our opinion that the queen of the first colony died just before the bees were ready to swarm. If the bees had not been hanging out, and were reduced in numbers, we should say that a swarm had issued from the hive. At all events, as soon as the first virgin hatched she led out a swarm.]

In the case of the other hives mentioned, we should say that swarms had issued, leaving capped brood and queen-cells.

If one does not keep a close watch on his colonies he will be liable to let swarms get away, with the result that he will have weak colonies left, a lot of queen-cells, and more or less after-swarming.

We may usually set it down as a rule that, where a colony is reduced in strength, has capped brood, no eggs nor queen-cells in the height of or following a honey-flow, a swarm has issued. If we find the same condition, either before or after the honey-flow, it can be explained on the ground of supersedure.—ED.]

WHY SHADE FOR BEES IN SOME PARTS OF CALIFORNIA IS DETRIMENTAL WHEN GIVEN ALL THE TIME.

It was a surprise to note Mr. Leslie Burr's comment upon the average "Californian's horror of natural shade," in the Sept. 1st issue of GLEANINGS for last year, p. 1152. I say surprising, because Mr. Burr has spent a season in California, actively engaged in apiary work, and

must have noted the sharp contrast in temperatures between night and day. Here is the point: The nights are cool, and the hives do not become sufficiently warm for bees to do their best work until too late in the morning. Especially is this true when comb honey is the desired object.

The wax-workers can handle their material only when the temperature is sufficiently high to render the wax pliable. It is a case of no comb built, no honey stored, with bees in shade, and a cool spring season combined. The last season emphasized this very strongly. For the benefit of young apiarists who may possibly establish apiaries in a locality where the nights are cool, I would say, *place your hives in the sun*, in double rows, back to back, as suggested by Mr. Burr. But he must be able to control the shade to fit the conditions. Give it, if needed, and it will be needed if a Langstroth frame is used, or if the combs are new and tender.

The above is in explanation, rather than in criticism, of Mr. Burr's article, which is full of helpful suggestions. F. E. BAGNELL.

Simi, Cal.

DEAD OR FOUL BROOD IN THE HEIGHT OF A HONEY-FLOW.

I have run up against a trouble which may be serious. I am keeping only a few stands of bees. Yesterday, while looking over my bees, I found one colony which had three cells of foul brood, and I think the colony will swarm in about a week; then I am going to give them your starvation cure.

What is your experience in confining bees three or four days on a set of frames filled with full sheets of foundation? Will it leave the foundation in good condition to make comb?

Wellsboro, Ind.

W. H. SANDERS.

[It is our opinion that what you report is nothing worse than dead brood. During very hot weather, especially if the bees have been sent by express or freight, some of the brood dies because it is overheated or improperly nourished. It turns brown, and in some cases assumes a slightly ropy character. This would rather indicate foul brood, except that we find this condition in the height of the honey-flow when the weather is hot, whereas real foul brood generally disappears when honey is coming in freely. In your case, at least, we should say there was no disease of any sort, but would advise you to keep a close watch to see if it becomes any worse. If you look through the hive you will find in the course of a week that this dead brood will all disappear.]

If you confine bees in hot weather for three or four days on foundation the probabilities are that the foundation will stretch and may melt down altogether, making a bad mess in the hive. The bees should not be confined in the hive unless they are kept in a cool place, say down cellar.—ED.]

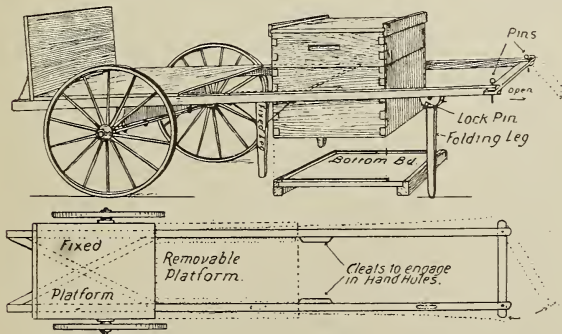
PROPOLIS FROM SWEET-GUM TREES.

I have noticed several theories as to where bees procure propolis. In this locality it is gathered almost exclusively from sweet-gum trees. I have 75 colonies, and care for many others, and have never discovered at any time any other substance than pure gum wax. W. C. DAILEY.

Crothersville, Ind.

A HIVE-LIFTING WHEEL-CART.

Honey production having grown from retail to wholesale, hives, of necessity, need handling more rapidly and easily. As shown by your journal, honey-producers are trying to evolve a portable crane. Now, why multiply tools when they are already too numerous? The above suggested the idea given herewith. Every professional apiarist surely must always need a hand-cart of some sort. Then why not try to make it do more than one thing? By the plan shown in the illustration I think any one can modify the details to suit his needs; as, owing to hives being so various in many ways, one particular pattern would suit only one man. In a truck made as suggested, I would have the floor-boards of the truck nearest the front free—just to rest on the handles—and kept in place by cleats on the under side, either to come inside or outside of handles, so that when the truck is wanted to lift hives off the bottom-boards or to carry to another stand they can be removed; and by opening the front pull-bar the handles may be sprung open sufficiently to go easily each side of the hive; and when the pull-bar is put back in place and the pin put in, the hive can not slip or shift. The drop-leg shown will hold the hive up and leave both hands free, and two ends and sides clear to work at. As regards the drop-leg, make the joint so that the leg will be free to work only one way—back and forth; otherwise the weight of the hive will swing the truck round and let the hive down. I suggest a joint something like the hinge of a rule; and below the pin the leg swings by, have a hole right through the joint and leg to put a pin through; then the truck can not possibly move. Now, when you lift a hive by the truck you can, if you wish, move it sideways, or back or forth, as needed; and in putting it back you can guide it home to $\frac{1}{16}$ inch. When the drop leg is lifted for ordinary work about the yard I would have short fixed legs to come, say, just back of where the back of the hive comes for lifting; and when the drop-leg is hooked up to the side-rails it is out of the road. With the loose floor-boards in place,



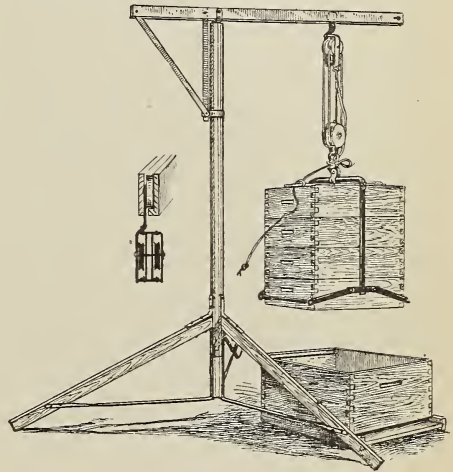
you have a handy cart for carrying supers and the many other things needed in a yard worked for bread and butter. With a pair of wheels and an axle a handy man would make it in a day, and have a tool that would make many a hard task pleasant and easy. JOHN BELL.

Greenhithe, Auckland, N. Z.

[The arrangement shown is very good, providing the ground is not uneven, and hives so placed that one can get around with the outfit. We are working on a modification, the lift being in front of a pair of wheels rather than in the rear. All these devices seem like a lot of machinery, and it is a question how far they can be used to advantage. We shall have more to say on this question at a later time.—ED.]

A NEW HIVE-LIFTER.

I would not bother with a hive-lifter for one super or for two or three eight-frame comb-honey supers; but when I have a good crop I have two, three, four, and sometimes five ten-frame supers on at once, and then is the time I expect a lifting-device to be of use.



The standard or upright part of my lifter is a $2\frac{1}{2}$ -inch boiler-tube 5 ft. 9 in. long. There are three oak legs, $\frac{3}{8} \times 3$, by 4 ft. 6 in. One end of these three strips is fastened to the upright pipe 18 inches from the lower end. The other end is connected to the lower end of the pipe by a light iron brace, making a triangle of each leg. The angle is such that the lower end of the upright is three or four inches above the ground. Three light iron braces about ten inches from the center connect the legs and hold them the right distance apart. The upper part of the lifter is a piece of barn-door track 3 ft. 9 in. long. It extends out 2 ft. 4 in. from the center, and is free to make a complete circle.

The tackle-block may move in toward the center or out to the end of the track; a bolt through the end of the track prevents it from running off. The end of the track has supported the weight of a 210-pound man.

This first machine weighs about 40 lbs. It is heavier than necessary. The proportions and details could be much improved, making a lighter machine; but just as it is, it is very easy to handle, as one can take a good hold with scarcely any stooping. It would be easier to pick up the

hive-lifter than to lift one ten-frame shallow extracting-super. My hives are in pairs. I can, therefore, handle two colonies with one move of the machine. With two or three supers on, it is hard work lifting to put on another or to get at the brood-nest. With the lifter I expect to lift as many as four at once, swing them to one side, manipulate the colony, and put on a fifth super if necessary. In taking off honey with escapes, I think it can be put right on to the wheelbarrow.

H. E. GREENWOOD.

Oshkosh, Wis., March 23.

[This lifter embodies some good principles. It represents a good deal of machinery, and probably could not be used to advantage except where there were more than two supers. We have been making some preliminary tests with devices of this sort, and find that the time taken to place them and get the standard vertical is considerable if the ground is uneven or the hives are arranged in groups. Still we are of the opinion that in the case of the "sky-scrapers" a device of this kind can be used to very good advantage, thus saving considerable strain on the back, and at the same time enable one to put an empty under the partly filled supers without doing any direct lifting himself.]

It is our opinion that the three legs on the machine should not be attached to the upright standard rigidly. They should be more in the nature of a tripod with legs having a certain degree of adjustment, thus allowing one to make up for the uneven ground; for it is very important that the standard or upright be vertical, otherwise it will topple over when the load is put on the projecting arm.—Ed.]

HOW TO DISINFECT HONEY FROM A COLONY AFFECTED WITH FOUL BROOD.

I have a number of colonies, I don't know how many, affected with foul brood; and if I shake them I shall have to wait till fall, and feed them on the fall flow. Would it be safe to shake them now and feed back the honey taken from them after heating or boiling it? Would it be safe to use partly drawn and filled section-supers from over-diseased colonies?

J. G. CRISLER.

Walton, Ky.

[You can feed back the honey, taking it from the hive that has had the disease, providing it has been boiled for 20 minutes, allowed to stand for two or three days, and boiled again for the same length of time. In the interval the germs undergo a state so that the second boiling takes effect and destroys any germ life that may exist. We would not advise you to put supers that have been taken off from diseased colonies on to healthy ones; but the honey from the diseased ones would be perfectly safe to use for the table or to sell; but be careful to place it where the bees will not get at it and so spread the disease by robbing.]

When honey is coming in freely, don't shake the combs, as it will be spilled over the ground, on the hive, on tools, on clothing, and everywhere. At such times, brush with grass or weeds and then burn whatever you use as a brush. No honey should be spilled or daubed on tools from a foul-broody colony, as you might thereby spread the disease to other colonies.—Ed.]

DOES IT PAY TO KEEP OVER A QUEEN THAT IS POOR HER FIRST SEASON?

I notice some writers say that, if a queen fails to lay enough eggs in a poor season to keep up her colony, the next year (if a heavy flow comes on) she may turn out to be as prolific as any queen in the yard. I do not agree with this; for I have invariably found that, if a queen was no good in her first season as an egg-layer, she was of no account the next season; therefore, if I find that a young queen is practically worthless the first season it is her last one, for more bad honey failures come from no-account bees, caused by no-account queens, than all other sources of failure combined. Early in the spring one can estimate the good qualities of any queen, almost, by the hustle displayed.

J. A. BEARDEN.

Harms, Tenn., June 1.

HANDLING QUEENS WITH CLEAN FINGERS.

Doesn't it look reasonable and very important to have perfectly clean hands, so as to be free from any odors, etc.? Then rub the fingers and thumb over wax or comb before picking up and caging a queen and her attendant bees. Sense of smell is very keen with bees.

Hallowell, Me.

E. P. CHURCHILL.

[We doubt the advisability of smearing the hands with beeswax or combs, as that might introduce the odor of another hive. Better put nothing on them, and, when washing, avoid scented soaps.—Ed.]

DOES SAGE YIELD HONEY IN IDAHO AND UTAH?

Does sage yield honey in Idaho and Utah? I saw miles of it there, but could not learn that bees get any honey from it.

FR. HOLMES.

Hillman, Mich., May 14.

[Possibly some of our readers can reply to this question.—Ed.]

Is it safe to introduce a queen in a hive where it has been queenless for some time?

Martinsburg, W. V.

C. H. MASON.

[It is a little risky to introduce a queen, especially a valuable one, in a hive that has been queenless for some time. The colony may have laying workers or a virgin. In either case it would be practically impossible to introduce a fertile queen. Before attempting to introduce we would advise giving a frame of *unsealed young brood*; and if the bees build cells therefrom it would be safe to introduce, as the presence of the cells would indicate that the bees were without a queen.—Ed.]

Is there honey in the second-crop clover?

Willink, N. Y.

A. G. STERLING.

[Some honey is secured from a second crop of clover. It depends upon the season and somewhat upon the bees.—Ed.]

Convention Notices.

The Central Tennessee Bee-keepers' Association will meet at the rooms of the Nashville Board of Trade on Saturday, Aug. 8.

J. M. BUCHANAN, Sec'y.

OUR HOMES

By A. I. ROOT

Therefore shall ye lay up these words in your heart and in your soul, and bind them for a sign upon your hand, that they may be as frontlets between your eyes. And ye shall teach them your children, speaking of them when thou sittest in thy house, and when thou walkest by the way, when thou liest down, and when thou risest up.—DEUT. 11:18, 19.

I hardly need remind you, friends, of the great work that the juvenile court is doing in this land of ours. Instead of punishing boys for their crimes and misdemeanors, this juvenile court is looking after the parents and others, to see how far the blame rests on some grown-up person instead of on the boys. I have told you something about Judge Lindsey, and how he has been punishing the saloon-keepers and others, and in various ways making bad boys good ones without shutting them up in prison and fining them; and I think we can all say, "May the Lord be praised for the better methods that are being instituted, not only in our great cities, but in the country also, for a way of leading boys out of iniquity and into righteousness by gentler means than the strong arm of the law."

Not ten minutes ago I was told that one of the boys in our employ had been helping himself to some Yellow Transparent apples that are just beginning to ripen close by our home. Now, this would ordinarily be considered a small matter; but just now apples of every sort are very scarce and expensive. We have only this one tree, and I have been watching it carefully in order to get the first ripe apples. You may remember that apples are my medicine. This boy's business is in the lumber-yard; but when he goes after the horse he uses, he goes pretty near the apple-tree. If there were only one boy it would be a small matter; but if all the hands in the lumber-yards scattered over our grounds should help themselves to our early apples there would not be enough to go around, let alone having enough for our own use. I met the boy soon afterward, and started to explain to him why we could not well spare those early apples; but as there were others standing around I hesitated. A boy's feelings are easily hurt, as I can well remember, even if I am almost seventy years old. I did not say any thing to him about it at all just then; but instead of that I hung up a board on the tree, in plain sight, saying, "Hands off."

With this preface I wish to tell you that I have just returned from a trip to our "cabin in the woods" in Northern Michigan. When I got ready to go up there just after the 4th of July, three boys in our neighborhood petitioned to go along and camp out in said cabin. I consented under certain conditions. Their mothers were to instruct them in the art of cooking so they could keep house and board themselves; and each one was to take along a few needed utensils.

We reached Traverse City in good health and spirits on the 7th of July. I had planned taking the boys up to the cabin on a gasoline-launch; but there had been a storm, and the waves were already throwing up white caps. A fishing-boat, however, had just brought in five tons of fish, and the managers of it said *they* would take us if we could wait until they unloaded—that is, if we

would not get seasick from the rolling and tumbling. These boys, fourteen, fifteen, and sixteen years old respectively, clamored for the trip on the fishing-boat. They were sure *they* would not get seasick. Well, when we reached the dock, eight miles away, the boys declared it was the most delightful boat-ride they had ever had in their lives. Of course, they could not stand up without holding on to something; but they got up near the pilot, and he explained to them how he met each great wave, and told them stories of fishing adventures on the beautiful waters of Grand Traverse Bay. Sometimes the boat would actually jump from the top of one large wave to the next, and then it would come down and strike the water with a crash that seemed as if it would smash the boat in pieces; but it was built for just such business.

We started up the hill toward the cabin, with our valises and other luggage. About as soon as we struck solid land, however, I looked over the wire fence and saw great luscious strawberries in such abundance that I was sure the proprietor had some to spare. As they belonged to Mrs. Heimfurth, my nearest neighbor, I took the liberty of inviting the boys to refresh themselves, and we ate to our hearts' content. When I got to the house I took out some money to pay for our treat; but my good neighbor absolutely refused to take a copper. She said they were short of pickers, and they really had more berries than they could take care of.

In a little while we were up to the cabin—see picture on page 658, June 15th, 1905. It was the first time I had paid the dear old place a visit this year, and I eagerly scanned the premises to see how my stuff had prospered since the fall before. The first thing that caught my gaze was my eight different varieties of currants. The fruit was dead ripe, and some of the great clusters were up higher than my head; and, by the way, it seems to me I never saw currants anywhere so delicious as those in that fruit region of Northern Michigan; and the glittering red of the ripe fruit that had not been molested by birds or any sort of currant-worm, it seemed to me, was more enticing than any thing else one can well imagine. Then I glanced beyond the currant-bushes to the mulberries. Let me explain a little.

Some six or seven years ago, when ordering some peach-trees and other stuff I told the nurseryman to put in two of his very best improved mulberry-trees, but I said nothing about the price. When I found he had sent two trees at \$1.50 each, I protested, and he finally cut the price down to a dollar. One of the trees almost died, and I was tempted to dig it up and throw it away, but I finally concluded to give it one more chance. For two years it put out only a very feeble growth; but now, however, it is a great tree with branches higher than my head. The other one made a prodigious growth, with branches which went away up in the air, and then down to the grass. One of my neighbors said it was what is called the "weeping" mulberry, and that it was worth nothing for fruit but only for ornament. Until this year it had been only a great mass of long trailing limbs, and I had decided that my dollar mulberry-trees were just a big swindle; but, lo and behold! on that July morning both trees were bending under their

loads of luscious fruit. And that was not all. The berries had been dead ripe, evidently, for some little time, and the fruit had dropped on the ground and almost covered it. One of the trees bore berries of a jet-black color, not as large as the ones we have in Florida, by considerable, but I do not know but they were just as delicious. The other tree, the weeping mulberry, was a surprise. The fruit was of three different colors—black, pink, and white; and the berries of all these colors seemed equally ripe and delicious. Why, I would not take ten dollars apiece for those two mulberry-trees, and yet I had been cherishing unkind thoughts all these years toward the man who sold them to me.

Of course, the boys made haste to appropriate their share of the fruit, even if they had just had a treat on strawberries. I think, while I am about it, I will finish up what I have to say about the fruit of that region right here.

The next day we walked over through the woods to a neighbor's house, that of Mr. Werner, a good farmer. He always has good crops of every thing, no matter what the weather is. On the side-hill close to his house were some of the finest-looking cherry-trees I ever saw in my life; and when we passed there the trees were literally black and red and yellow with their loads of the choicest and most luscious cherries I ever saw. The foliage on the trees was of a bright rich green that indicated perfect health. I went up to the house and asked permission for myself and boys to sample the cherries—offering, of course, to pay for them. The good lady said we were quite welcome to all we wished to eat.

I wish to stop right here to say that Mr. A. L. Hatch, away up in the northern part of Wisconsin, told me three years ago something about growing fruit. He said that wherever one can get plenty of healthy foliage he will get nice fruit sooner or later.

As I began to wonder at the great luxuriance of those cherries I looked at the ground beneath. It was a rich sandy loam. It probably had been improved by turning under clover or stable manure, or perhaps both. The boys all agreed with me that they had never tasted any cherries equal to those. As the trees were small, corn was planted between the trees, but not very close to the trees; and that corn, even away up there in the north, was about equal to any we have in Ohio at the same time. Of course, every thing is much earlier here in Ohio than there.

Perhaps I should explain that this visit was made just after we had eaten so many mulberries and strawberries. Later on we visited Mr. James Hilbert's cherry-orchard, containing over 400 trees. Before we got in sight we heard the laughter and voices of the pickers, for most of them were girls and women. About thirty were at work. While the cherry-trees did not all show the careful and thrifty appearance of those of Mr. Werner, the crops were literally wonderful. Owing to the recent heavy rains the fruit on some of the trees had become overripe; and Mrs. Hilbert pointed out a tree of Black Tartarians that she said they would not pick because a large part of the fruit was too ripe to bear shipping. She told the boys and myself that we were welcome to all we cared to eat or carry away from that tree. Well, now, I specially en-

joy fruit that most people consider too ripe. It agrees with my digestion better. As we were two and a half miles from home (through the woods and over the hills) I told the boys I thought they could eat just as many of those fully ripe cherries as they chose, without endangering their health. I know I ate a tremendous lot of them, but not one of us four experienced any bad effect from them whatever. I was anxious to see if those young growing boys could bear a great quantity of ripe fruit just as I do when tramping through the woods over hills.

After we had satisfied ourselves with Black Tartarian cherries Mrs. Hilbert told us we must be sure to look through another cherry-orchard over the hill. Oh dear me! I do wish the readers of GLEANINGS could get a glimpse of that cherry-orchard. My good friend Hilbert had ordered all sorts of cherries in order to test them in his locality, and so there were black and white, yellow and red cherries, big cherries, mottled cherries, and cherries of every description; and as we went from one tree to another and tested one and then another, we were tempted to say every time that the last was the best. If you like a cherry that is rather tart, I would recommend the one they call the Dyehouse, especially as it is found in the Grand Traverse region. I bought six Dyehouse cherry-trees some years ago and planted them here in Medina; but we decided *here* they were rather inferior; and this emphasizes the importance of growing any kind of fruit in a locality where it thrives the best. The Grand Traverse region of Northern Michigan is emphatically *the* place for strawberries, currants, cherries, peaches, and (I think we can add) apples. Last year they had an enormous crop, but there was almost none throughout the rest of the United States, and they are expecting to have another pretty fair crop this year. Everybody grows strawberries in that region, especially of late; and carloads and carloads of strawberries, cherries, and other fruit are constantly being rushed to Chicago and other great cities.

Just now they are also having a wonderful crop of huckleberries. These latter grow wild, without any care or attention whatever; and the yield is so great that wagonloads of people come from miles around and camp out to gather huckleberries. Some of our neighbors near the cabin drove fifteen or twenty miles and brought home loads of berries. Carload after carload of *huckleberries* are now being shipped from various parts of Northern Michigan to the great cities; yet, so far as I can learn, no attempt whatever has been made to cultivate this luscious fruit. Indeed, I believe the greater part of it grows on land that is considered of no value otherwise, or at least is uncared for by anybody.

Now that we have finished the fruit I wish to say something about the "crop of *boys*," growing up in our country. The two younger boys of our crowd had never before been away from home. I do not know that they had ever been away from their parents over night. About the second day while we were busy at dinner (I think I shall have to digress enough to say that we had black bass for dinner, besides all the fruit I have mentioned) one of the boys stopped eating suddenly. I began to fear he was sick, and was going to

look for some extract of Jamaica ginger. He admitted he was sick, but could not explain just *where* the pain was located. Pretty soon the tears were running down his cheeks, and he finally reluctantly confessed that he was *homesick*. A little later another one was homesick. Then I talked and reasoned with them. I told them about how I had been homesick, and how I got over it. When my arguments seemed unavailing, I told them I could get them all back home to their parents in less than twenty-four hours, if they insisted on it. "But," said I, "boys, I can tell you from my own experience that, if I get you back home now, when you come to think it over you will be more homesick to get back to the cabin in the woods than you are now to get back to see your fathers and mothers."

When prayer-meeting night came at that little church over the hills, that I have often told you about, I persuaded them all to go with me a mile up and down hill through the woods to that pretty little meeting-house. Of course, I had to talk to the people, as I always do when I get around in that neighborhood. In my talk I spoke about the homesick boys. I said it rejoiced my heart to see boys who love father and mother so much that they really consider home the dearest spot on earth. Then I told them about Mrs. Root being sick down in Florida; and I asked the friends to shake hands with the boys and give them to understand that there were good kind lovable people away up in Northern Michigan as well as down in Ohio. After prayer-meeting one of the boys said, "Why, grandpa, I believe that was about the best prayer-meeting I ever attended in my life," and I guess the others thought so too, for there was no more homesickness after that. Now, friends, I am giving you a good rational remedy for homesickness if you ever happen to experience it. Go to prayer-meeting. There is something especially inspiring about that little church, the Sunday-school, its Endeavor society, prayer-meeting, and its preaching services. Ever since the revival I told you about up there, there has been almost constantly something going on to improve it. It has been neatly papered recently, and carpeted. A very nice furnace warms it up in winter, and on this last 4th of July several of the boys and men got together and made a cement platform in front of the door. The planks had been getting old and rotten. I told them in my talk that such work was laying up treasures in heaven, where moth and rust do not corrupt, and where thieves do not break through and steal; and among all the good investments God has permitted me to make, dear friends, I do not know of any other one that gives me more pleasure when I come to think of it than what I have invested in the Bingham church away off there among the hills.

When I first went into that community, about eight years ago, the church and Sunday-school were pretty badly run down; but the saloons at Bingham were doing a big business. Saloons and Sunday-schools can not both well prosper in the same neighborhood. Since the revival I have told you about in the little church over among the hills, the saloon business has gradually gone down; and on this visit I was rejoiced to hear that the saloon had finally given up business entirely. It died a natural death for want of patronage. And this reminds me that I told the su-

perintendent of the Anti-saloon League for the State of Michigan, something like a year ago, that I would give \$25.00 to help inaugurate some temperance work in the neighborhood of our Sunday-school. Now, I do not know how much that did with closing up that saloon; but my impression is that God in his gracious goodness took the matter in hand before the League got around to it, and through the influence of that little church and Sunday-school the business that has wrecked so many homes in years past died out of itself without the aid of the League. Of course, I paid them the \$25.00 all the same. May God be praised for *such* victories over intemperance.

The plan was that, after I left the cabin and went back home, the boys should stay and camp out a week or two as they chose. As other boys may be interested in a like camping-out at some of the North Michigan health resorts I think some of you may care especially in regard to the expense of such a trip. The round trip from Toledo to Traverse City was \$7.50. I told the boys that 25 cents a day each for provisions ought to cover the cost. Butter, milk, and eggs are cheaper there than here in Ohio, and one can get them at almost any farmhouse. The neighbors will usually furnish bread also at a reasonable price. Well, at the time we figured up as I came away, the whole expense was only *21 cents a day each*; and we indulged in some luxuries also that might easily have been cut out. At first we commenced by cooking elaborate meals—ham and eggs, potatoes, postum cereal, etc.; but after many of their tramps through the woods or down to the bay they came back too tired to do any cooking; and so they adopted a *menu* consisting of cereals or shredded biscuit, and milk, and in a little time all three of the boys declared they felt better, and their strength held out better, with just these wheat preparations and milk than with a cooked meal.

Now, this testimony was worth lots to me because it verified T. B. Terry's teachings concerning uncooked food. These boys discovered, too, that it was ever so much less labor to do up the dishes when each one had only a bowl of milk with cereals to go with it. I preferred the Pettijohn rolled wheat uncooked, but the boys seemed to prefer shredded wheat biscuit, toasted corn-flakes, or something of that sort. Many of the staple grains with milk, and occasionally an egg apiece, will surely keep the average person in better health than what is usually termed a "good square meal." We did not go to the trouble of putting fruits on the table, because they were so abundant taken right off from the trees or bushes, and in the latter way we avoided the great quantity of cane sugar that is generally served with fruits on the table.

I am getting several letters daily in regard to this matter of diet and health. Now, just try it, friends, and see if you do not feel better and happier, besides saving a great lot of useless work in getting up these expensive articles of diet. Most of you can live without any meat if you choose by using milk and eggs as I have indicated. Do not forget plenty of good ripe fruit. If you say you can not afford to go into the markets and buy it, then get a little piece of land and *grow* it yourself. It will cost you less than

to buy medicines at the drugstore as you have been doing; and I am sure it will be more pleasing in the sight of God.

After I came away and left those boys alone I was almost homesick for their companionship once more. Their daily talks and discussions had endeared them to me in a way that I shall never forget, I am sure. Of course, we read the Bible every day and had talks in regard to the Sunday-school lesson and kindred topics; and when I took my leave and reminded them that as they were, at least some if not all, members of the Endeavor society, they should remember that iron-clad pledge, to read at least some part of the Bible every day, and they promised me that they would do so. If they do this, and even if there are no fathers or mothers around, or old people to look after them, I feel that the great Father above will keep an eye on them; and I am sure it is a great thing for boys in their teens, especially if they have been brought up carefully in their homes, to try camping out in the woods, doing their own cooking, keeping an account of their finances, and planning on a small scale to be men, and take their places soon as men in this world of ours.

In a recent issue of the *Sunday School Times* we are told of a German father who set his son up in business when the boy was quite young. The son made a failure, but the father did not seem to be much troubled about it. He said he wanted to see how the boy would manage *after* the father was dead and gone. Therefore he decided to let the boy make a test of it before that sad event came to pass. The next time the boy went into business he made a success of it and became a good business man. His early failure taught him some lessons he could not have learned otherwise. It is also an excellent thing to let every boy have a little practical experience in the way of cooking his own meals, keeping house, and learn the consequences of letting every thing drop where he used it last. May God in his great mercy not only be with those three boys away off there in the woods, but with *all* the boys and girls growing up in this land of ours.

POULTRY DEPARTMENT

KEEPING HENS WITHOUT MALES—SOMETHING FURTHER IN REGARD TO THE MATTER.

Mr. Root:—I can not refrain from taking you to task for your remarks on page 837 relative to hens without males. I am surprised to think that a person of your intelligence should think for one moment that hens under such conditions could be happy. "Male and female created he them;" and had you observed them closely under such conditions I think you would agree with me that it is the next thing to, if not quite, cruelty. I shouldn't even think you would need to observe them to know that it would be so. "Doth not reason itself teach you" that animated creation can not be happy long at a time unless both sexes are present? Try it yourself.

Of course, I think folks many times keep too many males; but, "for the sake of humanity, if for no other reason," don't encourage such nonsense if not cruelty.

I enjoy nearly all of your writings, as those of no other man, and hope you may live 50 years yet to give us the benefit of your words; but I think you wrote that without consulting Mrs. R. Cincinnati, N. Y., July 14. EMMET B. KIBBE.

My good friend, I own up that I took very much the view you did in regard to the matter,

and I have always maintained that the happy hen is the one that lays the egg; and therefore I was greatly surprised to see the statement from the Geneva station, that hens without males will lay more eggs. Your *theory* is all very good; but if we get more eggs by keeping pullets by themselves, I think we shall have to sacrifice sentiment to plain facts. I *did* consult with Mrs. Root, but her remarks were mostly concerning the surplus of males that are so often allowed in flocks of chickens on the farm and perhaps in country villages. Where a lot of males, especially a lot of young cockerels, are allowed to annoy the hens, the "cruelty" comes on the other side of your argument. I have been carefully scanning the poultry-journals to see what their experienced men have to say in regard to the matter, and I am surprised to find so little touching on a matter of such exceeding importance, not only to poultry-keepers but to consumers of eggs. But I have been rejoiced to find the following in the *Rural New-Yorker* for July 4—from one of the very best authorities. See what they say about it:

MAPES, THE HEN-MAN, AGAIN; "GERMLESS EGGS."

I see on page 470 in "Brevities," that Mr. Mapes is selling guaranteed "germless eggs." As I am in the poultry-business I should like Mr. Mapes to tell us in full how it is done.

Connecticut.

D. W. M.

It is a wonder to me that the trade has not sought for "germless eggs," backed by the guarantee of a responsible party, long before this. Most people in this part of the world want animal food in some form as part of their bill of fare, rather than an exclusively vegetable diet. Of all the forms of animal matter used as human food, an egg is best calculated for transportation to distant markets, and can be successfully kept in good condition easier than flesh, fish, or milk. Nature has provided in an egg all the elements of matter needed to grow and sustain the life of a chick for three weeks or more, thus making a complete food of it. The only other example of a complete food which we find in nature is milk. While milk is easily susceptible to all sorts of bacteria and other forms of decay as soon as drawn, an egg is done up in a neat package inclosed in a case that is almost impervious to air and water, and then surrounded by a protecting calcareous shell or case. In the case of a germless egg, this package of animal food will keep in good condition for eating for weeks and months in ordinary surroundings, either summer or winter. If, however, at a certain period in the formation of the egg it is fertilized, we have an entirely different proposition so far as preserving it in good condition for eating is concerned. It now only awaits the application of a certain amount of heat for this germ of life to begin to develop into the chick for which nature has provided this package of food. The necessary heat may come from the bodies of broody hens sitting on the nest, from an incubator, from the sun, or even from fermenting manure or other substances. It takes but a short exposure to the necessary heat for development sufficient to be discerned with the naked eyes, even without breaking the shell. Remove the source of heat after development has once begun, and death results within the shell; and instead of an appetizing package of food we have what might properly be called a coffin.

In view of these facts, is it any wonder that a germless egg is more to be desired than a fertile egg when looking for table supplies?

A hen will lay the same number of eggs, regardless of whether there are males in the flock or not. Just at what period in the development of the egg the germ of life is enclosed, is not so well known; but for all practical purposes we may conclude that two weeks after the males are removed from the flock the eggs laid will be germless. Ten days after I removed the rooster from my "hen-barn" I placed four eggs in an incubator, and one of the four proved to be fertile. About 95 per cent had previously been fertile. At present there is no known way of determining whether or not an egg is fertile, short of applying sufficient heat to start the germ into life, hence the consumer who buys germless eggs must depend largely upon the honesty of the seller. This seems to present great possibilities for building up a reputation, and placing a little bit of "character" into the eggs as well as the barrels of apples we place upon the market. The most approved style of package at present seems to be small boxes or "cartons" holding one dozen each. These are sealed, and the guarantee printed on the box or seal. In view of the chances which the ordinary grocer's egg runs, either from being left in the nest several days under a broody hen, or sitting about a hot grocery, or in the freight car moving slowly to market, or standing upon some siding switch, to say nothing about the subsequent

months in cold storage, it is a wonder that so many eggs reach consumers' tables in edible condition.

It seems that there are three if not more very important considerations in this matter. First, we get more eggs. Second, according to Mapes we get *better* eggs, or eggs that will keep fresh and in good order ever so much longer. Third (and this last argument I do not see mentioned at all), if you have some high-priced stock, and have a surplus of eggs, you do not want other folks following you to the grocery and buying eggs to set under a hen. To avoid all of this, have your choice stock in pens. We are told on pretty good authority that we get more eggs in confinement in a yard than where the fowls have unlimited range. These eggs from your choice stock you sell to neighbors or anybody else at a proper price. The eggs from the rest of your flock that you sell in the market for food are sold at a slight advance because they are fresh and "germless," and the label on each box warns the public that they are *better* for table use, but entirely *unfit* to set, because they would not hatch any way. Then when somebody comes to you, and wants eggs, you ask him whether he wants table eggs at 30 or 35 cents a dozen or eggs for hatching at, say, \$1.00 a setting.

Just one more point: As a proof that eggs will keep a long while in fair condition when germless, even during hot weather, I may mention that I have boiled eggs for chickens, taken right from the incubator, and they looked so good and wholesome that I tasted the yolk several times, and could see nothing wrong about it. In the hot climate of Arizona, where they have a temperature of over 100 degrees for days at a time, eggs have actually hatched out in the stores where they were offered for sale. Other eggs that were germless, kept in the same temperature, were fit for cooking even after they had been kept three or four weeks. Does not this seem to indicate that eggs that can not be used in a short time after they are laid *should* be germless so far as we are able to manage it?

GROWING PARTRIDGES INSTEAD OF CHICKENS, ETC.

After I left the boys, as I have mentioned in another column, I started with my valise over the hills through the woods to the station. I had enjoyed myself so much during the previous week that I was wondering if I could not invent some excuse for staying up in that locality a considerable part of each summer. Let me digress a little.

Just as soon as I got back to the old cabin I put the hammock into that little clump of maple-trees on the hill that overlooks the bay; and just before dinner (the boys cooked the dinner themselves, and it was a nice one too) I lay down in the hammock, as I have mentioned several times before, for a refreshing nap. Oh how I *did* enjoy it! It was a hot July day; but the breeze from the bay rustled the leaves over my head and gave a delicious coolness to my brow as I lapsed into unconsciousness. When I awoke, twenty or thirty minutes later, there was all through my being a sense of cleanness and purity that I have never found in any other locality. Whenever I sleep in a close room my mouth tastes bad when I awake; but up there in that pure

air every thing seems to be pure and sweet and wholesome, and it produces an exhilaration that I never get anywhere else. Perhaps I am exaggerating the advantages of that climate. To tell the truth, I have not *tried* a hammock in the open air, either in Ohio or down in Florida—that is, to any great extent. Well, now, let us get back to that trip through the woods over to the station.

I was considering what I could do up in those wild woods to keep busy and pay expenses during the summer time. As I rushed along I almost ran over a partridge. I have told you before that they are all through my woods up there; and as nobody is allowed to shoot them at this season of the year they get to be quite tame. It seems as if my foot almost struck that mother partridge, for such she was. She went rolling and tumbling out of the way, making a plaintive noise as if she were hurt. I caught on at once; and by searching around in the grass where she first started I found a whole brood of little partridges, just feathered out enough to be handsome. The minute I saw them and took a look at the plump handsome mother, still tumbling around as if she were hurt so she could hardly move, I said to myself—no, I guess I said it out loud, for I was off alone in the woods—"Dear me! why can't I come up here and raise partridges with my Cyphers' incubator just as easily as I raise Leghorn chickens down in Florida?"

As I hurried over to the train I began figuring what nice plump young partridges would bring in the market compared with Leghorn chickens. Perhaps they would not stand confinement; but then Bro. McClave, of New London, O., raises wild *ducks* right along, and lets them fly wherever they wish to go. They always come home at night to roost and for their feed.

When I got over to Manistee I told my brother-in-law, Mr. C. D. Gardner, about my project; but he at once "poured cold water" by the painful on my speculation. Said he:

"Why, Mr. Root, you can very likely grow your partridges all right, and with comparatively no trouble; but the minute you undertake to sell a partridge in the market you will be arrested, fined, and perhaps imprisoned. A man right here in Manistee, raising brook trout on his own farm, with water from his own spring, was making money hand over fist; but the game laws interfered. It is against the law here to sell trout or black bass. He took the matter into the courts, and fought them until it cost pretty nearly every dollar he was worth. But he had to give it up."

Now, will somebody who is posted on this matter tell me if this can be true? Is it possible that there are laws which forbid the farmer from growing trout or partridges on his own premises and selling them for what they are worth in the market? Of course, I understand the importance of preventing sportsmen from depopulating our woods and inland lakes of fowl and fish; but he who grows thousands of partridges and fish where none grew before, or at least in limited numbers, is, it seems to me, like the man who makes two blades of grass grow where only one grew before. A plump partridge, as everybody knows, is about the finest table delicacy the world affords; and, if I remember correctly, my father and mother,

when they were early settlers, used partridge eggs in place of hens' eggs when they found a big nestful in the woods. Can any of the friends furnish me any literature in regard to the domestication of our American partridges?

Now, for fear you will say this article doesn't belong in the poultry department I wish to quote a little more from that sharp keen business man, Mr. Gardner. I was recommending to his wife (my sister) that she get some chickens so as to keep her outdoors. By the way, she has so far recovered from her malady that she walks all over town at a brisk walk, and stays out of doors a great part of every day. Well, her good husband said something like this:

"The chicken business does not pay. Sooner or later they eat their heads off. I have seen it tried over and over again all my life. Even the men who raise fancy poultry and get big prices do not make it pay in the long run."

When both my sister and I entered a protest he added:

"Oh, yes! there is a man over south a couple of miles who raises eggs for market. He has some little boxes that will hold just a dozen, and every box has a rubber stamp on it telling the day the eggs were laid. He gets an extra price for his fresh eggs, and somebody said he was doing pretty well at it, but I do not know how long he will keep it up."

I know there is a lot of truth in what Mr. G. said. It is so around Medina, and it is so almost everywhere; but let me give you a plan by which you can *prove* that poultry will pay. Get half a dozen fowls to start with, and then grow chickens. Down in Florida, or even here in the North in the summer time, you do not need to invest any thing more except for feed. See what you can do by way of increase in just three or four months. In Florida, with a little incubator I increased from five to nearly a hundred in one winter. Here in Medina, during the past three months, with the aid of sitting hens (no incubator) I have hatched nearly one hundred chickens from the eggs laid by three choice pullets. The expense of feeding, especially where the fowls have a large range, is but a very small item compared with the value of the stock. When it comes cold weather, so that something must be invested in the way of winter protection, instead of undertaking to winter them suppose you just sell out for what they will bring during October and November. Very likely you will not make very great wages; but if you are obliged to be outdoors on account of health, as I am, I think you will find it quite a profitable investment all around. It is an easy matter to keep an account of what your stock costs, and the feed during the summer; and the fun of seeing the chickens hatch out is worth to me a "whole lot."

THE DECLINE OF BUCKWHEAT.

Probably few bee-keepers are aware that there has been a serious decline in the production of buckwheat as a farm crop in America. In 1866, which is the furthest back we can go for an authentic record, the area of land devoted to buckwheat was 1,045,000 acres, and the yield was 22,791,000 bushels. The value of the crop for

that year was \$15,413,000. At present the area in buckwheat is about 750,000 acres, with a yield of 14,500,000 bushels, valued at \$8,000,000. In former times Pennsylvania led the way in buckwheat production; but now she holds a secondary position to New York, which at present holds the banner.

Possibly adulteration had considerable to do with the fall of buckwheat in popular esteem; for until the passage of the national pure-food law it was generally mixed with any kind of dark flour which happened to be cheaper. Some people refused to buy the mixed goods; and if others did purchase the stuff, what they got was only half buckwheat at the most.

The demand for buckwheat flour is better than it used to be, and there is a big field for the grain in connection with poultry. For the latter it is an ideal feed, and has the merit of being easily grown. The probabilities are that buckwheat will rise to its former position. Bee-keepers could do much to help it to attain a higher position among the crops. There is plenty of suitable land for buckwheat in New England, New York, and Pennsylvania, and it is a pity that more of it is not grown.

W. K. M.

TEMPERANCE

A MINISTER WHO IS NOT AFRAID OF BECOMING UNPOPULAR BY SPEAKING THE TRUTH.

The following, by the Rev. U. S. Tabor, we clip from the *Manatee River Journal*, Florida, for May 22. Perhaps I should explain that the temperance people of Manatee Co. have lately organized what they call The Patriotic League, and this clipping is in regard to it:

You can generally count that the sheriff who goes around with the smell of liquor on his breath will not disturb the peace of anybody but a kinky-headed negro who is selling it. If he goes to search a drugstore he will wire the boys, "Look out! I'm coming! Get all the booze hid out."

This is a local-option county. More than once it has shown that a majority of her people did not want intoxicating liquors sold within her borders. Now, why have we had 29 persons with license to sell liquors in the county? Because the laws have not been enforced. And why have the laws not been enforced? Because the people of the county have not demanded their enforcement. And why have the temperance people not demanded their enforcement? Because there was no one to speak except private individuals, and they felt that their speaking would not produce results.

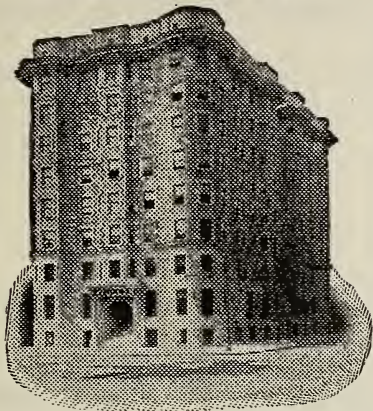
But suppose that all the people in this county were organized; and suppose that the president of that organization, representing hundreds of voters, the best men in the county, and hundreds of women—the good and true in all our churches and out of our churches—should demand of the officers of this county (in the name of the organization) that the laws be rigidly enforced, and assure that officer that these hundreds of the best people were back of him, what would be the result?

There would not be a blind tiger left to tell the tale; the whisky crowd would quit poking fun at us and saying, "Prohibition doesn't prohibit." If it does not, it is your fault and mine. Are you willing to act the part of a man, a patriot, and, as far as your powers go, with love to all and malice to none, stand as a soldier by the side of your neighbor for the enforcement of law? If so, join The Patriotic League of Manatee County.

My good friend, have *you* such a minister in your locality to stand up bravely for godliness and righteousness? Perhaps you have if some good man like yourself would show him this article and tell him you are ready to stand by him and back him up in the glorious work of putting down sin and Satan and holding up Christ Jesus.

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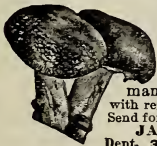
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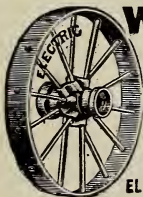
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MAKES AND BURNS ITS OWN GAS

Metal Hame Fastener

Does away with straps. Every farmer and teamster delighted. Outwear harness. Fasten instantly with gloves on. AGENTS 200% profit. Indispensable when once used.

AGENTS FERRY'S HANDY HAME FASTENERS bonanza for agents. Many sell dozen an hour. Sample 25c, doz. \$1.10 Circular and wholesale price free

COONER & FORTUNE CO. Dept. 18 INDIANAPOLIS, IND

SPRAY PUMPS

"TAKE OFF YOUR HAT TO THE MYERS"

MYERS

The Pump that pumps easy and throws a full flow. The cheapest pump is the best pump, that's a Myers. Pumps, Hay Tools & Barn Door Hangers. Send for catalog and prices.

F. E. Myers & Bros.
Ashland, Ohio.

ASHLAND PUMP AND HAY TOOL WORKS

Rider Agents Wanted



in each town to ride and exhibit sample 1909 model. Write for Special Offer. Finest Guaranteed
1909 MODELS \$10 to \$27
Coaster-brakes and Puncture-proof tires.
1906 & 1907 Models all of best makes \$1 to \$12
500 Second-Hand Wheels
All makes and models, good as new, \$3 to \$8
Great Factory Clearing Sale.
We **Ship On Approval** without a cent deposit, pay the freight and allow
TEN DAYS' FREE TRIAL.
Tires, coaster-brakes, parts, repairs and sundries, half usual prices. Do not buy till you get our catalogs and offer. Write now.
MEAD CYCLE CO., Dept. S113, Chicago

Bee-keepers' Supplies Sold

At the very lowest profit possible. Dovetailed hives, sections, etc.; complete stock, bought in car lots. Subscriptions given with orders. Send for my 32-page catalog, free. **W. D. SOPER, Jackson, Mich.**

CUTS USED IN THIS MAGAZINE
ARE FROM
THE MUGLER ENGRAVING CO.
MUGLER BLDG. CLEVELAND, OHIO.

"Practice Makes Perfect."

A little girl sat on her father's lap, looking into the mirror, and inquired if God made both her father and herself. Being assured that he did she remarked that he was doing better work than he ever did before.

It is simply the old adage over again, and it is true of *The A. I. Root Co.'s* Bee-keeping Supplies; and while perfection can never be attained they are as near perfection as improved machinery and years of practice can well make them. If you have never seen them, or if you have, and have not a catalog, send at once for my 40-page catalog, illustrated profusely, and giving prices of every thing used in the apiary. *It is free for the asking.* Special price list of shipping-cases, and all kinds of honey-packages—wood, tin, and glass. Send a list of what you will need at any time and let us tell you what they will cost you delivered at your station.

Cash or goods for wax at all times.

George E. Hilton
Fremont, . . . Michigan

HONEY-JARS

from
New York City

We consider the No. 25 jar with solid metal cap and waxed liner the best jar made for honey.

Gross crates \$5.00; 5 gross, \$4.75 per gross.
12-oz. screw-cap jar . . 4.50; 2 gross, 8.25 per gross.
1-lb. sq. jar with cork . . 5.00;
Italian queen 1.00. Catalog free.

Apiaries, Glen Cove, L. I.

I. J. STRINGHAM 105 Park Place, New York

There's NO RED TAPE when You Buy from PEIRCE

Your order receives *personal and immediate* attention, and shipment from a city with *unsurpassed shipping facilities*. Several carloads of *Root's Goods* handled this season. Catalog free.

EDMUND. W. PEIRCE, Zanesville, Ohio

ROOT'S BEE-SUPPLIES AT SPRINGFIELD, MASS.

New Goods. Free Catalog. 'Phone.
F. R. DANIELS, 117 FLORENCE ST.



FOR SALE.—It will pay to get our special proposition.
A. G. WOODMAN & CO., Grand Rapids, Mich.

Hammer Free!

With Every Order of Supplies of \$5.00 or Over.



This is the handiest tool for nailing up hives, frames, and all parts, or for opening up hives. Made of steel, nicked.

Three per cent discount off all prices in catalog.

FULL LINE OF ROOT'S GOODS

NO CHARGE FOR DRAYAGE.

John N. Prothero
Dubois, .. Pennsylvania

1884

1908

Root's Goods always in stock

FOR YOU

Twenty-two successful years manufacturing bee-supplies and raising Italian bees and queens.
. Root's Goods in Stock.

J. M. Jenkins
Wetumpka, : : Alabama

Dittmer's COMB FOUNDATION

is the best, not because we say so, but because the bees prefer it to other makes.

Dittmer's Process is Dittmer's

It has built its reputation and established its merits on its own foundation and its own name.

**We make a specialty of working
wax into foundation for cash.**

Write for free catalog, and prices on full line of supplies.

GUS. DITTMER CO., Augusta, Wis.

THE BEE-KEEPERS' Headquarters for the Southwest

Texas

Old Mexico

New Mexico

WE NOW HAVE ON HAND
AN IMMENSE STOCK OF HONEY-CANS
(13,000 cases)

Weed's New-process Foundation

We make it right here from a new set of machinery. At present our factory is running nights, as well as in daytime, to keep up with orders. Still we can take immediate care of your order when it comes, as you certainly want the best. Keep out of trouble and get the very best foundation money can buy. We have it here—made in San Antonio.

Plenty of Shipping-cases

12-in. 4-row shipping-cases with 3-in. glass . . .	\$17.00 per 100
9½-in. 4-row shipping-cases with 3-in. glass . . .	15.00 per 100
10-in. 2-row shipping-cases with 3-in. glass . . .	9.35 per 100
6½-in. 3-row shipping-cases with 3-in. glass . . .	9.80 per 100
7½-in. 3-row shipping-cases with 3-in. glass . . .	10.70 per 100

A large warehouse of Root's Bee-supplies

Sold at Root's factory prices. Write us with regard to your wants. Catalog for the asking. If you have mislaid it, send for another.

Honey and Beeswax Wanted

We are always in the market for honey and beeswax in large or small lots. Beeswax, 27 cts. cash; in trade, 30 cts.

Whenever you are in San Antonio make our office your office, and let us show you through our plant. Stay here awhile and meet the bee-keepers as they come in. You are always welcome and will be courteously treated.

UDO & MAX TOEPPERWEIN
1322 SOUTH FLORES ST. SAN ANTONIO, TEXAS



HIGHLAND FARM QUEENS



are the result of years of careful selection and judicious breeding from the best honey-gathering strains of superior long-tongue red-clover Italians in America and Italy. Highland Farm methods will produce perfectly developed, long-lived, and prolific queens. If you want bees that will winter well, build up rapidly in the spring, and roll in the honey, Highland Farm queens will produce them. We are now sending queens of this celebrated strain by return mail at the following prices:

	1	6	12
Select untested queens	\$.75	\$4.00	\$ 7.50
Tested queens	1.25	6.00	10.00
Select tested queens	1.50	8.00	15.00

Safe delivery and satisfaction guaranteed. Send for queen circular—it tells why Highland Farm queens are superior to others. Address all orders to

J. E. HAND, BIRMINGHAM, ERIE COUNTY, OHIO.

GRAY CAUCASIAN QUEENS.

1905-1906 Queen-breeder in Apiary of Dept. of Agriculture, Washington, D. C.

During that time Caucasians were being distributed by the department so that I handled many of the imported queens and bred much of the stock which other breeders are using, and am in a position to furnish the best of Caucasian queens. They are hardy and prolific, but not great swarmers; are builders of white combs, great honey-gatherers, and their extreme gentleness has won for them the name "STINGLESS." Queens are reared from imported mother of gray type. Have three-band or leather-colored Italians also. They are hustlers.

GRAY CAUCASIANS.				PRICE LIST AFTER JULY 1.				THREE-BAND ITALIANS.			
Untested queens.....1,	\$.75;	6,	\$4.25;	12,	\$ 8.00.	Untested queens.....1,	\$.60;	6,	\$3.35;	12,	\$6.50.
Select untested queens...	1.00	5.50	10.00.			Select untested queens...	.75	4.00	7.50.		

SAFE ARRIVAL AND ENTIRE SATISFACTION GUARANTEED. Descriptive circular and testimonials free.

No bee disease ever in this section. **LESLIE MARTIN, :: Birdcroft Apiaries, :: LEBANON, TENNESSEE.**

ITALIAN QUEENS

And nothing but Italians. An improved superior strain is what QUIRIN-THE-QUEEN-BREEDER raises. Stock is Northern-bred and hardy—not a single colony lost during the past winter; have five yards, all wintered on summer stands. Am now taking off supers of nice white-capped clover honey. Prices of bees and queens as per below:

Prices of Queens after July 1.	1	6	12
Select queens	\$.75	\$4.00	\$ 7.00
Tested queens	1.00	5.00	9.00
Select tested queens	1.50	8.00	15.00
Breeders	3.00	15.00	
Straight five-band breeders	5.00		
Two-comb nuclei, no queen	2.25	12.00	22.00
Three-comb nuclei, no queen	3.25	18.00	32.00
Full colonies on eight frames	5.00	25.00	

All queens now go by return mail. Safe arrival and pure mating guaranteed. We employ 400 to 500 swarms. Can furnish bees on L. or Danz. frames. Add price of whatever queen is wanted to nuclei or colony. No order too large, and none too small. Over 20 years a queen-breeder. Address all orders to

QUIRIN-THE-QUEEN-BREEDER, Bellevue, Ohio.

ITALIAN QUEENS



Fine young prolific 3 and 5 banded Italian queen, untested, only 75c; extra-fine queen #1; tested, \$1.25. Full colonies in 8-fr. hive, with queen, \$5.50; 3-fr. nucleus, with queen, \$2.75. Safe arrival guaranteed. Directions to introduce go with queen. Price list free.

J. L. FAJEN, . ALMA, MO.

NOT CHEAP QUEENS, BUT QUEENS CHEAP

500 Best Strain Italian Queens Ready to Mail March 1st. Untested queens in lots as follows: 1, 75 cts.; 6, \$4.20; 12, \$ 7.80. Tested queens in lots as follows: 1, \$1.00; 6, \$5.70; 12, \$10.80. Breeders' queens in lots as follows: 1, \$5.00; 3, \$12.00. Nuclei with untd queen: 1-fr., \$1.75; 2-fr., \$2.25; full colonies \$4.75. Nuclei with tested queen: 1-fr., \$2; 2-fr., \$2.50; full colonies, \$5. Also dealer in bee-keepers' supplies. Root's goods. Ask for cat'g. **W. J. LITTLEFIELD, LITTLE ROCK ARK.**

PHARR'S GOLDENS

took first prize at three exhibits in 1907. We also breed Carniolans, three-banded Italians, and Caucasians, bred in separate yards and from the best breeders obtainable; guarantee safe delivery and fair treatment. Untested, 75 cts.; tested, \$1.00. **New Century Queen-rearing Co., Bercain, Tex. John W. Pharr, Prop.**

Golden Italian Queens, 75c

Six for \$4.00.

Mailed promptly. Safe arrival and satisfaction guaranteed. Circular.

J. B. CASE, Port Orange, Fla.

Westwood Red-clover Queens

Are the bees that got the honey in 1907. Better try them for 1908. Nuclei and full colonies a specialty. Price list on application. **HENRY SHAFFER, 2860 Harrison Ave., Sta. L. Cincinnati, O.**

QUEENS of MOORE'S STRAIN OF ITALIANS

Produce workers that fill the supers, and are not inclined to swarm. They have won a world-wide reputation for honey-gathering, hardness, gentleness, etc.

Mr. W. Z. Hutchinson, editor of the *Bee-keepers' Review*, Flint, Mich., says, "As workers, I have never seen them equaled. They seem possessed of a steady, quiet determination that enables them to lay up surplus ahead of others. Easier bees to handle I have never seen."

My queens are all bred from my best long-tongued three-banded red-clover stock (no other race bred in my apiaries), and the cells are built in strong colonies well supplied with young bees.

PRICES: Untested queens, \$1.00 each; six, \$5.00; doz., \$9.00. Select untested, \$1.25 each; six, \$6.00; doz., \$11. Selected tested, \$2.00. Extra select tested, \$3.00. Breeders, \$5.00 to \$10.00.

Safe arrival and satisfaction guaranteed. Descriptive circular free. Address

J. P. Moore, queen-breeder, Rt. 1, Morgan, Ky.

ITALIAN QUEENS

Bred from best stock to be had in the country, and by best methods, insuring beautiful, vigorous, long-lived queens. Prices for 1908:

	1	6	12
Untested	\$1.00	\$5.00	\$9.00
Tested	1.50	8.00	15.00
Select tested	2.00	10.00	14.00
Breeder	5.00		
Two-frame nucleus	2.25	12.00	22.00
Three-frame nucleus	2.75	15.00	28.00
Full colony on eight frames	5.00	25.00	

Add queen wanted to above.

I shall offer no Caucasians for sale this season.

E. M. GRAVES, Ioamosa, San Bernardino Co., Cal.

W. H. Laws

says that, while his trade is very satisfactory, and about as large as he can handle, yet he does not want you who are new to him to forget that the very best of honey gatherers and a square deal is what you will always get when you buy Laws queens.

You should try his strain of Red-clover Long-tongue Italians, one firm alone having bought over 3000 of the Laws queens in the past six years; and more than half the queens sold this season are sent to customers who have bought in former years. A long string of testimonials testify to their merits, and you will make no mistake in buying Laws queens.

Single queens, \$1.00; 6 for \$5.00. Some very fine breeding queens on hand. Safe delivery and satisfaction guaranteed at \$5.00 each. Address

W. H. LAWS, Beeville, Bee Co., Texas.

ITALIAN QUEENS BY RETURN MAIL OR MONEY REFUNDED

Warranted, 75 cents each, six for \$4.00; tested, \$1.50 each. Circular free.

D. J. BLOCHER, PEARL CITY, ILLINOIS

GOLDENS, 10c.

Send 10 cts. (silver) for cage of living bees, **HARDY GOLDENS**, and examine before ordering, if you care to see the most beautiful race on earth. C. Oscar Fluharty, Sandusky, W. Va.

GOLDEN-ALL-OVER and RED-CLOVER ITALIAN QUEENS

My stock is the result of years of careful selection, and is equal to any in the country. The prices are only such as to insure long-lived, prolific queens, whose workers will be hardy and good honey-gatherers. Write for 1908 circular. PRICES.

	1	6	12
Untested	\$1.00	\$5.00	\$9.00
Select untested	1.25	6.50	12.00
Tested, \$1.75 each; select tested, \$2.00 each.			

Positively all orders filled in rotation.

Wm. A. Shuff, 4426 Osage Ave., Philadelphia, Pa

Long-tongued

Red-clover Queens

Bred by their Originator

Do you want to get some specimen queens of the world-famous red-clover stock of Italian bees? Then buy from me, because I am the originator, and surely ought to know how to breed them in their purity. When you get them from me you know you have the real strain. For years I have devoted time and skill to this stock, trying to reach perfection. I can submit many splendid testimonials in favor of this stock to show my work has not been in vain. Try them, and YOU will be pleased also. I endeavor to please the practical man looking for definite results in dollars and cents. Many years' experience as head apiarist of The A. I. Root Co. enables me to fill the most exacting order with complete satisfaction to the purchaser. Let me show you how well I can please you.

Prices

Untested queen	June to October, \$1 00
Select untested queen	" 1 25
Tested queen	" 2 00
Select tested queen	" 3 00
Breeding queen	" 5 00
Select breeding queens	" 7 50
Extra select	1 yr. old " 10 00

F. J. Wardell

Uhrichsville, Ohio, U. S. A.

5000 QUEENS

of the famous 3-banded LONG-TONGUE RED-CLOVER STRAIN OF ITALIAN BEES is what I want to sell this season.

My bees GATHER HONEY if there is any to get; ARE LITTLE inclined to swarm and sting; they please such people as The A. I. Root Co., R. F. Holtermann, W. Z. Hutchinson, Morley Pettit, etc., and if they don't please you, send in your kick.

Queens of all grades now ready.

	1	6	12
Untested queens	\$1.00	\$5.00	\$9.00
Select untested queens	1.25	6.00	11.00
Tested queens	1.50	8.00	15.00
Select tested queens	2.00	11.00	20.00
Breeders. \$5.00 to \$7.00.			

W. O. VICTOR (Queen Specialist), Hondo, Tex.

QUEENS

of the Robey strain of three-banded Italians during the season of 1908. Warranted queens, 75 cts. each; \$4.25 per six; \$8.00 per doz. Tested queens, \$1.00 each. Satisfaction or money refunded.

L. H. ROBEY, Worthington, W. Va.

MILLER'S SUPERIOR ITALIAN QUEENS

By RETURN MAIL; bred from best Red-clover working strains in United States. No better hustlers; gentle, and winter excellent. Untested, from my SUPERIOR breeder: one, 75c; six, \$4.00; twelve, \$7.50. Special prices on lots of 50 or more. Satisfaction and safe arrival guaranteed. Circular free.

ISAAC F. MILLER, :: Reynoldsville, Pa.

HARDY GOLDENS!

Yes, I have them, and they *are* hardy—winter well, very gentle, and extra good hustlers. I know many goldens are the reverse of all this. I also know why, so do the breeders who sell them. My prices are high; but, every thing considered, they are cheap (see June 15th issue). I sell 20 goldens to one of any other race. Untested queen, \$1.00; select tested, *guaranteed*, \$2; tested, 3-band, \$1. C. Oscar Fluhrly, Sandusky, W Va

CARNIOLAN, BANAT, AND CAUCASIAN QUEENS

Home-bred, \$1.00 each; five at 80c each; Imported, \$4.00 each. FRANK BENTON. - Box 17. - WASHINGTON, D C.



RED-CLOVER QUEENS

200 lbs. honey from my breeding colony. Mostly red-clover honey. Untested queen, 65 cts.; tested, \$1.00; doz., \$7.00. Four-frame nuclei and fine tested queen, \$4. G Routzahn, Biglerville Pa.

TRY SOME OF MY RED-CLOVER AND GOLDEN QUEENS

Italian strain, untested, 50c each. Mailed promptly; safe arrival and satisfaction guaranteed. Send for prices of breeders and tested queens. M. BATES, Greenville, Ala., R 4, box 29.

TO LAND SELLERS

There is a continual demand for farms or ranches suitable for bee-keeping. If you have the right kind of place, and can satisfy us on that point, we are certain you can dispose of it to one of the 35,000 readers of GLEANINGS IN BEE CULTURE, by inserting a small advertisement in its pages.

There is no other medium by which you may reach the great constituency of bee-keepers. The cost of such an advertisement is small when compared with the results.

WRITE TO

THE ADVERTISING MGR. OF
GLEANINGS IN BEE CULTURE
MEDINA, OHIO

Convention Notices.

There will be a semi-annual session of the Nebraska State Bee-keepers' Association held in Lincoln during the State Fair. The meeting will be held on Wednesday evening, Sept. 2, at 7 o'clock, at the bee and honey house on the State Fairgrounds.

All bee-keepers in attendance at the fair should be present. There will be interesting discussions, exchange of practical experiences, and renewal of acquaintance. Come to the fair and see one of the best honey exhibits displayed in any of the central States, and enjoy a meeting of one of the growing State bee associations. LILLIAN E. TRESTER, Sec.

Lincoln, Neb.

SPECIAL NOTICES

BY OUR BUSINESS MANAGER

JAPANESE BUCKWHEAT.

We can supply seed in two-bushel lots and upward at \$1.50 per bushel, no charge for bags, although at this price we have very little margin. One bushel, \$1.75; half-bushel, \$1.00; peck, 60 cents, bag included in each case.

ONE-FRAME OBSERVATION HIVES AT A DISCOUNT.

We have a few one-frame observation hives, slightly shopped, which we offer at reduced price to close out before taking inventory. They are almost equal to fresh new goods. There are seven with suers, which we will sell at \$2.25 each, and two without suers, at \$1.90 each.

OUR ST. PAUL BRANCH.

Mrs. H. G. Acklin, manager of our St. Paul branch, is expecting to take an extended vacation, and has secured the co-operation of Messrs. Palmer & Pilcher, who will be permanently identified with this branch in the future. On my recent visit to St. Paul, adjusting the loss by fire, I met both gentlemen and can heartily commend them to our patrons of that office. While the care of bees was new to them, they were apt and capable, and were fast mastering the mass of details connected with the handling of supplies as well as the bees.

A HONEY-PUMP.

Some months ago there was described in these columns an outfit for bottling honey; and one of the items described was a small rotary pump that would raise honey from the receptacle where it leaves the extractor up into an elevated tank so that it would flow by gravity through the filling-pipe to the glass bottles and jars. We have been investigating pumps for handling liquid honey, and are prepared to offer the No. 1 Blackmer pump to run with a belt at \$25.00. This can be belted up to the same engine that runs the honey-extractor by putting a four-inch pulley on the opposite side of the engine from that which drives the extractor. For those who do not have an engine to drive it we can supply the Little Giant pump, with handle to work by hand, for \$20.00.

REVISED PRICES OF HONEY-EXTRACTORS WITH BALL-BEARINGS AND SLIP GEAR.

The addition of the letter "B" to old numbers indicates ball-bearings.

THE NOVICE EXTRACTOR.

In ordering add-sized extractors, give outside dimensions of frames and length of top-bar.

No. 4B.—For all frames 13 inches or less in depth and 13½ inches or less in width (wt. 50 lbs.) . . . \$10 0
No. 5B.—For L. or Simp. frames standing on end, or any other frame not over 9½ in. deep or 18½ long, top-bar 20 in. (wt. 45 lbs.) . . . 9.50
No. 7B.—For frames deeper than the L., but not over 11¾ in. (wt. 60 lbs.) . . . 10.50
No. 10B.—For deeper frames not over 13¾ in. deep, or 18½ wide (wt. 60 lbs.) . . . 10.50

THE COWAN RAPID REVERSIBLE EXTRACTOR.

No. 15B.—2-frame Cowan for L. frames; comb-pockets, 9½ in.; diam. of can, 20 in. (wt. 80 lbs.) . . . 12.50
No. 15BR.—2-frame Root Automatic reversing, with brake, size as above . . . 14.00
No. 17B.—2-frame Cowan, for frames not over 11¾ in. deep, 23 in. in diameter (wt. 100 lbs.) . . . 13.50
No. 17BR.—2-frame Root automatic reversing, with brake, size as above . . . 15.00
No. 18B.—2-frame Cowan for frames not over 12 in. deep, 24 in. in diameter (wt. 120 lbs.) . . . 14.50
No. 18BR.—2-frame Root Automatic reversing, with brake, size as above . . . 16.00
No. 20B.—2-frame Cowan, for frames requiring larger than 24-in. can . . . 16.50
No. 20BR.—2-frame Root Automatic reversing, with brake, size as above . . . 18.00

The Root Automatic reversing device with brake is applied to 2-frame extractors, as in table above. This device can not be added to a Cowan, but the extractor must be made for it.

THE ROOT AUTOMATIC REVERSIBLE EXTRACTOR.

No. 25B.—4-frame Root Automatic for L. frames, 28 in. in diameter (wt. 180 lbs.) . . . 25.00
No. 25BP.—Same as above with power gear . . . 30.00
No. 27B.—4-frame Root Automatic for frames not over 11¾ in. deep, 34 in. in diameter (wt. 210 lbs.) . . . 28.00
No. 27BP.—Same as above with power gear . . . 33.00
No. 30B.—6-frame Root Automatic for L. frames, 32 in. in diameter (wt. 210 lbs.) . . . 32.00
No. 30BP.—Same as above with power gear . . . 37.00

No. 37B.—6-frame Root Automatic for frames not over 11 $\frac{5}{8}$ in. deep	37.00
No. 37BP.—Same as above with power gear	42.00
No. 40B.—8-frame Root Automatic for L. frames, 36 in. in diameter (wt. 210 lbs.)	40.00
No. 40BP.—Same as above with power gear	45.00
No. 47B.—8-frame Root Automatic for frames not over 11 $\frac{5}{8}$ in. deep	46.00
No. 47BP.—Same as above with power gear	51.00

Other sizes built to order. Prices on application. Give outside dimensions of frame and length of top-bar, and number of frames you want to extract at one time.

In the foregoing list, B, of course, indicates that the extractor is fitted with ball-bearings. R indicates that the Root automatic is meant, and P indicates that the machine is fitted for power, and requires the use of an engine.

BALL-BEARING EXTRACTORS.

For some time we have been on the lookout for a good ball-bearing at a price low enough to enable us to use it in our honey-extractors without greatly increasing the price. We have now found what we have been looking for, and propose from this time forward to equip all our extractors with ball-bearings. This we can not do at the regular price; but the machines will be so much improved in durability and easy-running quality that you will be well repaid for the slight additional price. In addition to the ball-bearings we are arranging a slip-gear device on almost all hand-power machines, to enable one to throw the gears out of mesh and stop the crank from revolving the moment you stop applying power, and allow the reel to spin on its ball-bearings, throwing out the honey while you uncup the next lot of frames ready to put into the extractor. None of these improved machines are in the hands of our dealers, as we did not get them perfected in time for this season's trade. You must not expect the new features on any extractors you may order this season unless you especially request it or mention it in your order.

Special Notices by A. I. Root

UP-TO-DATE POULTRY-BOOKS, ETC.

Besides the poultry-book that we give away to everybody who sends \$1.00 (as mentioned in GLEANINGS for May 15), providing he sends 6 cts. for postage, we have the following up-to-date valuable books which we offer at half price to any one who sends \$1.00 for GLEANINGS and asks for no other premium, or any one whose subscription is paid up for one year or more. First we have two books, the regular price of which is \$1.00 each; to the subscribers of GLEANINGS, as mentioned above, 50 cents each, postpaid. The first of these books is:

Poultry-plant Construction, most profusely illustrated with plans for houses, diagrams, bills for material, and descriptions of the largest and most successful poultry-plants now running, including houses for ducks as well as chickens.

The second dollar book is entitled Successful Poultry-keeping. This is a book of 176 pages, 9x12, brimful of illustrations. It comprises the whole business in every department, from setting hens to caponizing.

Then we have the following books at 50 cents each:

Artificial Incubating and Brooding.

Poultry-houses and Fixtures, with a special department in regard to fresh-air or curtain-front poultry-houses.

The Chick Book; all about raising chickens; profitable broiler-raising, etc.

The Plymouth Rocks.

The Bantam Fowl.

The Leghorns.

The Asiatics.

Ducks and Geese.

Eggs and Egg-farms.

Besides the above 50-cent books we have also 6 more 50-cent books entitled Cyphers' Series, as follows:

1. Profitable Poultry-keeping in all its Branches.
2. Profitable Care and Management of Poultry.
3. Profitable Poultry-houses and Appliances.
4. Profitable Egg-farming.
5. Profitable Market Poultry.
6. Capons for Profit, by T. Greiner.

The above 15 books are 50 cents each, but only 25 cents to those who send \$1.00 for GLEANINGS, or to any one whose subscription is paid up for one year or more; and if you find when you get any one of them that you do not care for the book at 25 cents, send it back and we will return the money. As we have only a limited stock of these books perhaps you had better order soon, and mention some other one in case the one particularly wished has been sold out. We have still a good stock of the book entitled Profits in Poultry, for which you may send 6 cents to pay for postage as described in GLEANINGS. This is a good-sized book that we give away, but it is not up to date like the others.

Well, something has lately come up about capons that may make this latter book especially valuable. The writer, in one

of the recent poultry-journals, says capons can be easily taught to take care of chickens just as well as the mother hen; and you can give them chicks from the incubator or take them away from the hens when hatched, and he will be just as good a mother as the mother-hen, and he will grow and get fat at the same time. The writer says he has repeatedly given a good-sized capon 30 or 40 chicks, and he says the capon would scratch and "cluck" for them and brood them as well as the mother. Greiner's book does not tell us any thing about this. Perhaps he did not know it. If his eye should alight on this will he please let us know? and if any of the rest of you have had experience in giving chicks to a capon as I have described I wish they would write me briefly in regard to it. If a capon can be made to receive and brood chicks it looks to me as if he would be ahead of a "fireless" brooder or any other kind. I am inclined to think there may be at least some truth in this, for I have seen a half-grown chicken adopt other small chickens, and care for them almost like their own mother.

Finally, we have quite a number of copies of a book called Reliable Poultry Remedies; or, the Causes, Symptoms, and Treatment of Poultry Diseases. Now, while I have very little faith in doctoring either chickens or human beings with drugs or medicines of any kind, I find this book exceedingly valuable in its hints about the prevention of diseases among poultry. A great many times, and I do not know but I might almost say the greater part of the time, when your fowls are ailing it is because of some carelessness or neglect on your part. This book will enable you to see almost at once where the trouble is.

The regular price of the book is 25 cents, or 13 cents only to the readers of GLEANINGS.

THE WRIGHT BROTHERS FLYING-MACHINE, AND OTHERS, UP TO DATE.

We learn by the papers that, some little time ago, Wilbur Wright, the elder of the brothers, while making some experiments in flying, was pretty severely burned by the escaping steam of the cooling-coils of his engine. He said, however, he was not hurt, and to prove it he walked half a mile or more to his stopping-place; but as we go to press we learn by the *Woman's Daily* that the hurt was more severe after all, and will probably interfere with some of their plans for flights over in Europe. It is just like my good friend Wilbur to say he was not hurt, even when suffering severely, and we hope and pray that he may soon be fully recovered.

From the magazine called *Aeronautics* we learn that De la Grange, on the 30th of May, made ten circles with his aeroplane, staying up in the air 15 minutes and 26 seconds. The distance covered was from 14 to 15 kilometers. As a kilometer is equal to about $\frac{3}{4}$ of a mile, the speed made was about 40 miles an hour. Farnam has also made a successful flight, carrying a passenger, and afterward won the \$2000 prize by making a 20-minute flight of 11 miles.

The "June Bug," as it is called, has also made some very successful flights here in America, in one of them winning the *Scientific American* trophy. This flight was made July 4, and the machine made something over a mile, at the rate of about 40 miles an hour. We are further told that De la Grange has planned to arrive with his machine in the city of New York about the 20th of August, that Farnam is probably here by this time, and the prospect is that "something will be doing" now right speedily. In fact, it may be that something has already been done while I dictate these words.

CLASSIFIED ADVERTISEMENTS

Notices will be inserted in these classified columns at 25 cents per line. Advertisements intended for this department can not be less than two lines, and should not exceed five lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

Help Wanted

WANTED.—Man and wife for farm in Dutchess Co., N. Y. Man to have knowledge of bees. Address
B, Room 409, Evening Post Bldg., New York City.

Poultry Offers

A. I. Root's Bee-goods, Poultry-supplies, Seeds, etc.
STAPLER'S, 412-414 Ferry St., Pittsburgh, Pa

For Sale

FOR SALE.—Collie puppy, female, nearly all pure white. Eligible. H. E. GRAY, Fort Edward, N. Y.

FOR SALE.—Tasmanian necklace shells, any quantity. Sample sent. G. H. SMITH, Ramsgate, Tasmania.

FOR SALE.—A full line of bee-keepers' supplies; also Italian bees and honey a specialty. Write for catalog and particulars. W. P. SMITH, Penn, Miss.

FOR SALE.—1908 home-grown re-cleaned scarlet-clover seed, now ready; \$3.50 per bushel, sacks free. A No. 1 stock. G. L. ELLIS, Millsboro, Del.

FOR SALE.—One, two, or three well-equipped apiaries near Bakersfield, Kern Co., California. Interested parties please address H. W. JACKSON, R. D. 3, Bakersfield, Cal.

FOR SALE.—Beautiful long-haired Persian and Angora cats and kittens; solid whites and various colors; none better. Send stamp for written reply.

KENSINGTON CATTERY, Marion, Ohio.

FOR SALE.—If you want an illustrated and descriptive catalog of bee-keepers' supplies for 1907 send your name and address to FRANK S. STEPHENS, Paden City, W. Va. (Root's Goods.)

FOR SALE.—200 cases of 5-gallon cans. All are free from rust inside, and the majority have been used but once. Two cans in a case; 10 cases or more, 25 cts. per case. J. E. CRANE & SON, Middlebury, Vermont.

FOR SALE.—Alexander wire bee-veils, no pins or sewing required; made from the very best wire cloth at 60 cents each, postpaid. FRANK ALEXANDER, Delanson, N. Y.

FOR SALE.—Best Wisconsin sections, 1000, \$4.00; 2000, \$7.75; 3000, \$11.00; 5000, \$17.50; No. 2, 50 cts. less; plain, 25 cts. less, 24-lb. 2-in. glass shipping-case, 14 cts. Catalog free. H. S. DUBY, St. Anne, Ill.

FOR SALE.—About 1300 or 1400 cases, two five-gallon cans each, practically free from nail-holes, and were new tins when originally shipped to us. Make us an offer. CLEVELAND HEALTH FOOD CO., Cleveland, O.

Don't bother with cans. Kegs are cheaper and easier to fill and handle. 160-lb. pine kegs, with 2-in. hole and plug, 50 cts. each, f. o. b. factory. Orders given prompt attention. Send list of supplies needed. I can save you money.

N. L. STEVENS, Moravia, N. Y.

FOR SALE.—Moving-picture show with newspaper, magazine, and phonograph business combined; doing good business; no opposition in town of 3000. Will sell separately; good reasons for selling. Don't write unless you have the cash and mean business. W. A. NICHOLS, Medina, Ohio.

FOR SALE.—About 100 bee-hives. They are mostly 8, 9, and 10 frame hives, taking L. frames. Some of them are new, and all are in good condition. They have metal rabbets, Van Dusen clamps, and a large number have Hoffman frames. I have also a few Dadant hives that are new, and some 9-frame hives that take frames of standard length, and have bodies 12 inches deep. Further particulars, matters of correspondence. Somebody can get a bargain in these hives, as, owing to failing eyesight, I shall soon have to quit the business of bee-keeping. EDWIN BEVINS, Leon, Iowa.

Real Estate for Bee-keepers

FOR SALE.—160 acres, 60 in crop; fine park-like bee-farm; spring water, wood, house, stables. Price \$2500. REV. GUS. KUNKE, Ponoka, Alberta, Canada.

FOR SALE.—A good paying bee business in Minnesota; with or without real estate; 400 colonies Italian bees, with all necessary up-to-date appliances.

A B C, care A. I. ROOT CO., Medina, Ohio.

FOR SALE.—A fine ranch in Idaho, fruit of all kinds, clear spring water, 160 acres good land, 12 stands of bees, ideal bee location; good market; best climate; \$25,000 an acre; cheap. No boy correspondence wanted. F. F. GEORGE, Fraser, Idaho.

FOR SALE OR RENT.—Bee-hive factory; waterpower, 85-horse capacity; trackage, yardage, 93,000 feet floor-space. Native basswood for sections can be bought for \$3.00 to \$5.00 per cord. Thick soft white pine for hives available at less than Eastern price. If interested, come.

W. H. PUTNAM, River Falls, Wis.

FOR SALE.—Two good homes in village of Elsie; one house, 7 rooms, one-half acre, bee-house and supplies. The other, 9 rooms, three-fourths acre; well, cistern, fruit, large horse-barn; two poultry-houses. Everything goes with the place except library, bedding, dishes, and tools.

DR. N. L. HIGBIE, Elsie, Clinton Co., Mich.

PECOS VALLEY of New Mexico lands are coining \$50 to \$65 net per acre per year from alfalfa. Forty-five thousand acres of alfalfa in bloom five times a year, surrounding Artesia, means honey for the bee-keeper. Live in an ideal fruit country, where the largest artesian wells in the world constantly pour out their wealth. Artesia, the future Rose City, already has the famous "Mile of Roses." Homeseekers' excursions the first and third Tuesdays of each month. Agents wanted to accompany parties. Write to-day to R. M. LOVE, General Agent, Artesia, N. M.

Bees and Queens

Golden Italian queens by return mail, 50c.

J. F. MICHAEL, Winchester, Ind.

FOR SALE.—800 colonies of bees; for particulars, address

DR. GEO. D. MITCHELL & Co., Ogden, Utah.

FOR SALE.—Northern-bred red-clover queens. Untested, 75 cts.; tested, \$1.00. E. S. WATSON,

R. F. D. No. 2, Madison, Maine.

FOR SALE.—Improved Italian and Golden Mortgage-lifter queens. Tested and untested, \$1.00 to \$3.00.

BEST THE BEE-MAN, Slatining, Pa. ☉

FOR SALE.—Extra fine untested red-clover Italian queens by return mail, 60 cts. Mismatched, 35 cts.; 3 for \$1.00.

F. M. MAYBERRY, Lederach, Pa.

FOR SALE.—Italian, Carniolan, and Caucasian queens. Untested, 75 cts.; 12, \$8.50; virgins, 40 cts.; 12, \$4.50. Stamps not accepted. EDWARD REDDOUT, Baldwinsville, N. Y. ☉

FOR SALE.—Italian bees and queens now ready. Untested, \$1.00; tested, \$1.50. Bee-keepers' supplies, Root's goods. Send for prices. Eggs from Silver-laced Wyandotte poultry.

N. V. LONG, Bisbee, N. C.

Standard bred red-clover Italian queens. Bred for gentleness and their superior working qualities. Virgins, 45 cts.; untested, laying, 85 cts.; select untested, \$1.00; tested, \$1.50.

J. R. MCCORKLE, Wingate, Ind. Rt. 5.

FOR SALE.—Queens of my famous red-clover stock; untested, 50 cts.; select untested, 75 cts.; tested, \$1.00; nuclei, \$1.00 per frame. Golden queens at same price. H. A. ROSS,

1709 Upper Second St., Evansville, Ind.

FOR SALE.—Moore's strain and golden Italian queens, untested, \$1.00; six, \$4.00; twelve, \$7.00. Carniolan, Banat, and Caucasian queens, select, \$1.00; six, \$5.00. Tested, any kind, \$1.25; six, \$6.00. Choice breeding queens, \$3.00 each. Circular free.

W. H. RAILS, Orange, Cal.

Honey and Wax for Sale

FOR SALE.—Choice extracted clover honey for table use, in new square cans. C. F. LUFT, Ada, Ohio.

FOR SALE.—New crop fancy white-clover and amber comb honey. W. J. HARBOUGH, Kernstown, Va.

FOR SALE.—New No. 1 white clover comb honey at \$3.50 per case of 24 sections; less than six cases, 25 cts. per case extra. QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

FOR SALE.—5000 lbs. of clover and amber honey in 160-lb. kegs. C. J. BALDRIDGE, Homestead Farm,

Kendala, N. Y.

FOR SALE.—Palmetto honey, perfectly cured, and almost as white as white clover. Ten gallons, in a two-can case, \$8.50. E. B. ROOD, Bradentown, Fla.

FOR SALE.—Write for prices on clover, basswood, and buckwheat honey in 60-lb. cans and kegs; also comb honey and beeswax, all guaranteed to be pure.

W. L. COGGSHALL, Groton, N. Y.

FOR SALE.—Choice extracted honey for table use, gathered from clover and basswood—thick, well ripened, delicious flavor. Price 9 cts. per lb. in 60-lb. cans, two to case. Sample, 10 cts.

J. P. MOORE, Queen-breeder, Morgan Ky.

FOR SALE.—Choice white extracted honey, mostly clover and raspberry mixed, in new 60-lb. cans. Price on application. Sample, 10 cts.

JAMES McNEILL, Hudson, N. Y.

FOR SALE.—2000 lbs. white-clover honey, mostly comb, heavy, well ripened. What am I offered?

J. M. MOORE, Holden, Mo.

FOR SALE.—About 7000 lbs. of fine extracted white and alsike clover honey, in 5-gal. square tin cans, 2 to box, at 8 cts. per lb., f. o. b.

C. M. BUTT, JR., Viroqua, Wis.

FOR SALE.—1908 crop of Northern Michigan red-raspberry and clover honey; heavy body, light color, fine flavor. Price \$10.50 per case of 120 lbs. (two cans). Cash with order.

IRA D. BARTLETT, East Jordan, Mich. Box 156.

FOR SALE.—Our own production of comb honey, 4 x 5 plain sections, No. 1 quality, at 16 cts. per section. Our comb honey won every important premium in the State last year. If you have a place for some "gilt-edge" comb, write.

E. D. TOWNSEND, Remus, Mich.

FOR SALE.—Clover and raspberry honey; also basswood honey; well ripened, rich body and delicious flavor; extracted from capped combs. Two 60-lb. cans (120 lbs. net), \$10.75. Ask for sample if a choice article will please.

F. B. CAVANAGH, Boscobel, Wis.

FOR SALE.—150 cases of No. 1 comb honey, 15 sections in 3-inch glass, no-drip cases, 6 cases in a crate, very fine, at \$2.40 per case, f. o. b. cans here. Also 8000 lbs. clover and basswood extracted, in new 60-lb. cans, 2 in case, very heavy body and fine flavor, at 9c, f. o. b. cans here. Sample free.

W. H. TOWNSEND, Hubbardston, Mich.

FOR SALE.—My new crop of white-clover extracted honey. Honey has been left in full charge of the bees for three weeks after harvest, and is rich, waxy, and of fine flavor, and is as good as a specialist can produce. Price is 9½ c. per lb. by the case of 120 lbs. or for the entire crop. Cash to accompany order.

LEONARD S. GRIGGS, 711 Avon St., Flint, Mich.

It is just as I expected! The bees are now, this 21st day of July, gathering basswood honey, and piling it on top of the raspberry. It will be raspberry and basswood honey mixed this year. Then about the time this August list GLEANINGS reaches you we will be extracting. Rich, ripe, and rosy will be the kind of honey I will have for sale this year. Some of it has been on the hive 60 days. Doesn't it make your mouth water to think of it? It will be put into bright new shiny 60-lb. cans that you can see your face in. I am asking 10 cts. a pound for this delicious honey—just a little more than it takes to buy the ordinary kind. Ask for a sample, and be convinced.

E. D. TOWNSEND, Remus, Mich.

Honey and Wax Wanted

WANTED.—White ripe extracted honey; will pay cash.

GEORGE RAUCH,

No. 5343 Hndson Boulevard, North Bergen, N. J.

WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity.

R. A. BURNETT, 199 South Water Street, Chicago, Ill.

WANTED.—We are in the market for No. 1 white extracted honey in any quantity. Correspondence solicited. State kind, quantity, and price asked. We also have for sale 60-lb. honey-cans, 2 cans in case. Both cans and cases in A1 condition, at 30 cts. per case.

MICHIGAN WHITE CLOVER HONEY CO.,
31-33 Griswold St., Detroit, Mich.

Wants and Exchanges

WANTED.—Refuse from wax-extractors and old comb or cash

ARCHIE COGGSHALL, Groton, N. Y.

WANTED.—Eastman Panoram kodak, No. 4. Will trade a 6½x8½ View outfit, or sell outfit and buy kodak.

F. C. WOOD, Dola, O.

WANTED.—Refuse from the wax-extractor, or slumgum State quantity and price.

OREL L. HERSHISER,

301 Huntington Ave., Buffalo, N. Y.

Bee-keepers' Directory

Bee-keepers' Supply Co., Lincoln, Neb. We buy car lots of Root's goods. Save freight. Write.

ITALIAN QUEENS from imported mothers; red-clover strain, \$1.

A. W. YATES, 3 Chapman St., Hartford, Ct.

ITALIANS, CARNIOLANS. No disease. Two-comb nucleus with queen, \$3.00.

A. L. AMOS, Comstock, Nebraska.

GOLDEN yellow Italian queens—my specialty. Price list free.

E. E. LAWRENCE, Doniphan, Mo.

ROOT'S BEE SUPPLIES. Send for catalog.

D. COOLEY, Kendall, Mich.

Mott's long-tongues by return mail, also goldens—hardy, yet gentle, but little or no smoke.

E. E. MOTT, Glenwood, Mich.

Well-bred bees and queens. Hives and supplies.

J. H. M. COOK, 70 Corlandt St., New York City.

For bee-smoker and honey-knife circular send card to

T. F. BINGHAM, Farwell, Mich.

Golden Italian queens, 75 cts. each. Satisfaction guaranteed.

WALTER S. HOSS, 1127 Blaine Ave., Indianapolis, Ind.

ITALIAN BEES, queens, honey, and Root's bee-keepers' supplies.

ALISO APIARY, El Toro, Cal.

Golden-all-over and red-clover Italian queens; circular ready.

W. A. SHUFF, 4426 Osage Ave., Philadelphia, Pa.

I club a high-grade Italian queen with GLEANINGS, new or renewal.

W. T. CRAWFORD, Hinston, La.

Order your bee-supplies from Superior Honey Co., Ogden, Utah, at Root's catalog prices. You save time and money. Largest dealers in the West.

Root's bee-supplies at factory prices, *Black Diamond Brand Honey*, and *bee-literature*. Catalog and circulars free.

GEO. S. GRAFFAM & BRO., Bangor, Maine.

Have you seen Hand's queen circular? It's an eye-opener. Your address on a postal card will bring it. It will pay you to send for it.

J. E. HAND,

Birmingham, Erie Co., Ohio.

QUEENS.—Improved red-clover Italians, bred for business, June 1 to Nov. 15, untested queens, 60 cts.; select, 75 cts.; tested, \$1.00 each. Safe arrival and satisfaction guaranteed.

H. C. CLEMONS, Boyd, Ky.

Improved Italian queens now ready. Nuclei and colonies May 1 to 10. Over twenty years a breeder; 500 colonies to draw on. Free circulars and testimonials. For prices see large advertisement in this issue.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

ITALIAN BEES and QUEENS. I breed three-banded stock only, and use the finest breeding stock to be had. For prices, see display advertising columns in this issue. Send for price list. Twenty-five years' experience.

F. J. WARDELL, Uhrichsville, O.

TENNESSEE QUEENS.—Best that experience can produce. Untested three-band and goldens, \$1.00 each; 6 for \$5.00; 12 for \$9.00. Caucasians, \$1.25 each. Write for circular; order goldens from Ben G. Davis; others from John M. Davis, Spring Hill, Tenn.

Breeding queens of pure Caucasian and Carniolan races—price \$3.00. Order from A. E. Titoft, Expert in Apiculture, with Russian Department of Agriculture, Kieff, Russia. Remit with orders. Correspondence in English.

other, and will not be subject to so much breakage in shipping. These are all packed in reshipping-cases of two dozen each at the following prices:

Simplex jar, in reshipping-cases,	\$1.10	case; 6 cases,	\$6.30.	Weight 24 lbs.	per case.
No. 25 "porcelain top,"	1.10	" " "	6.30.	" 25 "	per case.
No. 25 "tin top,"	.90	" " "	5.10.	" 22 "	per case.

TIP-TOP JARS.

This is a reliable jar with glass top, rubber ring, and spring-top fastener. We have it in two sizes, holding $\frac{1}{2}$ and 1 lb., packed either in reshipping-cases or crates of one gross at the following price:

Half-pound Tip-top jars in reshipping-cases, \$1.00 per case of 2 doz.; \$5.00 per crate of 1 gross.

One-pound Tip-top jars in reshipping-cases, \$1.10 per case of 2 doz.; \$5.50 per crate of 1 gross.

HALF-POUND TUMBLER, NO. 12.

For a cheap glass package for half pound of honey the tin-top tumbler is very popular. We supply with these tumblers, besides the tin top, a wax-paper disk for sealing it tight when filled with honey. These are packed four dozen to case, or 32 dozen to barrel, at the following prices:

No. 12 half-pound tumblers, \$1.00 per case of 4 doz.; \$6.40 per barrel of 32 doz.

MASON FRUIT-JARS.

These are very largely used for canning fruit, and are often used for honey as well. As we buy them by the carload, we can make the following prices at Medina, all put up complete with porcelain-lined caps and rubbers, in cases of 1 doz.

Pint size	. . .	dozen, 62c;	6 dozen, \$3.50;	12 dozen, \$6.75.
Quart size	. . .	" 65c;	6 " 3.60;	12 " 7.00.
Half-gallon size,	"	85c;	6 " 4.85;	12 " 9.50.

Triumph wrenches for Mason jars, 15c each; by mail, 20c.

All glassware shipped in original packages is furnished as put up at the factory by experienced packers and should reach destination in fair condition. We decline to be responsible for breakage. Should there be an excessive amount of breakage, report the case, giving particulars, and we will present the matter for adjustment to the factory.

STURWOLD'S SHOW-CASE.

This case is 28 inches high and 20 inches square, outside measure, top and bottom. The glass of which it is made is 16x24. The case is to be set up in any grocery, drugstore, or any other place of business where you want your honey exhibited or sold. The frame is of chestnut, filled and varnished, and finished in natural grain. Price, plain, \$5.00; with name and address, \$5.50. As the glass is very apt to be broken in transit, we will ship them, if you prefer, with glass boxed separately, at the same price. In flat, no glass or finish, \$2.50; glass included, \$4.00.

SAMPLE MAILING-BLOCKS.

Price 6 cts. each; by mail, 8 cts.

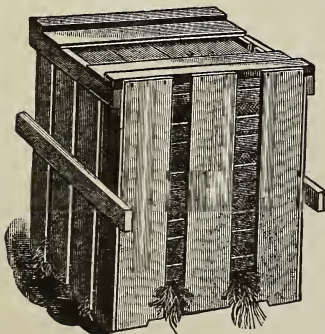
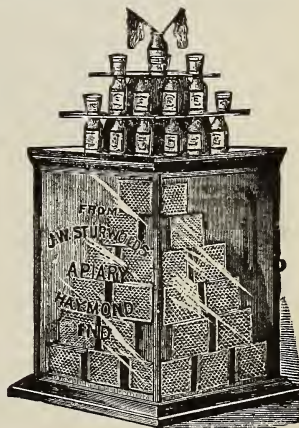
These conform to the postal regulations for mailing liquids.

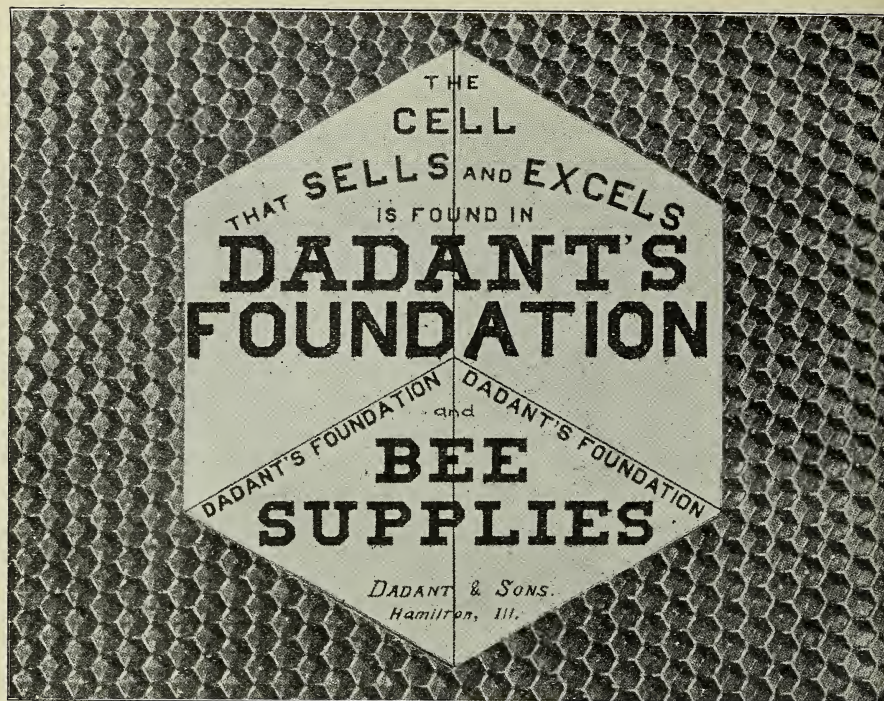
A small wide-mouthed bottle with cork is enclosed in a screw-top case. Requires three cents postage when mailed filled with honey. Used for submitting samples of extracted honey.

SHIPPING-CASES.

In packing your comb honey for market do not injure your chances of selling at top prices by using poorly-made shipping-cases. Separate your honey into grades. The best will bring enough higher price to pay you well for your time in sorting, and you will be building a reputation for reliability and square dealing which will greatly assist you in making future sales. Having graded the honey carefully use neat, bright, well-made cases to pack it in. For list of our cases see our general catalog. For one cent a case extra we furnish cases with sliding cover and corrugated paper sheet for bottom of case, which saves breakage in shipping. In shipping small lots by freight pack several cases into a carrier with hay, straw, or other spongy material underneath to take the jar when handled roughly.

THE A. I. ROOT CO., Medina, O.





SUPPLIES

FOR

BEE-KEEPERS

Every thing you want; all made by us
in our own factories--at
LOWEST PRICES.

The American Bee-keeper (published 17 years), a monthly at 50 cts.
a year. Sample copy and illustrated catalog and price list free. Address

W. T. FALCONER MFG. CO.

DEPARTMENT G,

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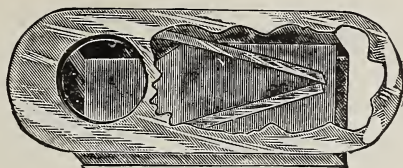
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JAMESTOWN, N. Y.



PORTER BEE-ESCAPES

HIVE ESCAPE

When taking off surplus this is the greatest saving device. It does away with the shaking of the heavy supers, the cruelty of excessive smoking which causes the bees to uncup their honey and start robbing. Just tip the super to the angle of 45 degrees and insert the board. In a few hours it is free of bees; then take off your super. You can as well afford to be without a smoker as without the Porter Bee-escape.

PRICES

Each, 20 cts.; dozen, \$2.25; postpaid. With board, 35 cts. each; \$3.25 per 10; by express or freight.

TESTIMONIALS

They are perfect in action.—British Bee Journal.

No bee-keeper can afford to be without them.—Prof. Cook in American Bee Journal.

Worthy of highest commendation.—Eugene Secor, judge on awards, World's Fair, Chicago.

I would not do without them even if they cost five five dollars apiece.—W. Muth-Rasmussen, Independence, Cal.

They are absolutely perfect. I can not tolerate my own male since using them.—John S. Reese, Winchester, Ky.

They are one of the best things ever brought into any apiary, and should be used in every bee-yard in the whole world.—Wm. McEvoy, Foul-brood Inspector, Ontario, Canada.

There is no robbing or fighting or disturbance in the apiary when the surplus honey is taken off with them. They are simply perfect.—W. Woodley in British Bee Journal.

HOUSE ESCAPE

To be used over the doors and windows in the extracting-house, or any place you wish to clear of bees. The most persistent robber can not return. Some bee-keepers make a practice of taking off the filled supers and stacking seven or eight in a pile. The Porter Honey-house mounted on a board makes the best kind of escape. Don't wait till to-morrow before you get a supply. You can not afford to be without them longer.

PRICES

Each, 25c; dozen, \$2.75; postpaid.

TESTIMONIALS

The Porter bee-escape clears the supers of bees so perfectly and quickly and easily that it makes the taking off of honey a pleasure instead of a dread as in former years.—G. M. Doolittle, Borodino, N. Y.

The removal of full honey-boxes has become an amusement since we began using the Porter bee-escape.—Ed. Bertrand, Editor Revue Internationale d'Apiculture, Nyon, Switzerland.

This number of the Review contains more unqualified praise of the Porter bee-escape than any other issue has ever contained of any other implement; but so long as it is deserved, who cares?—Bee-keepers' Review.

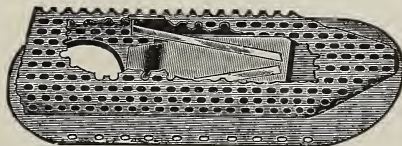
They are the greatest thing on earth for expelling bees from supers.—G. J. Flansburg, South Bethlehem, N. Y.

I would not be without them for four times what they cost.—Dr. W. A. Tufts, Musson, La.

Undoubtedly the best bee-escape is the one invented by R. & E. C. Porter.—W. S. Pouder, Indianapolis, Ind.

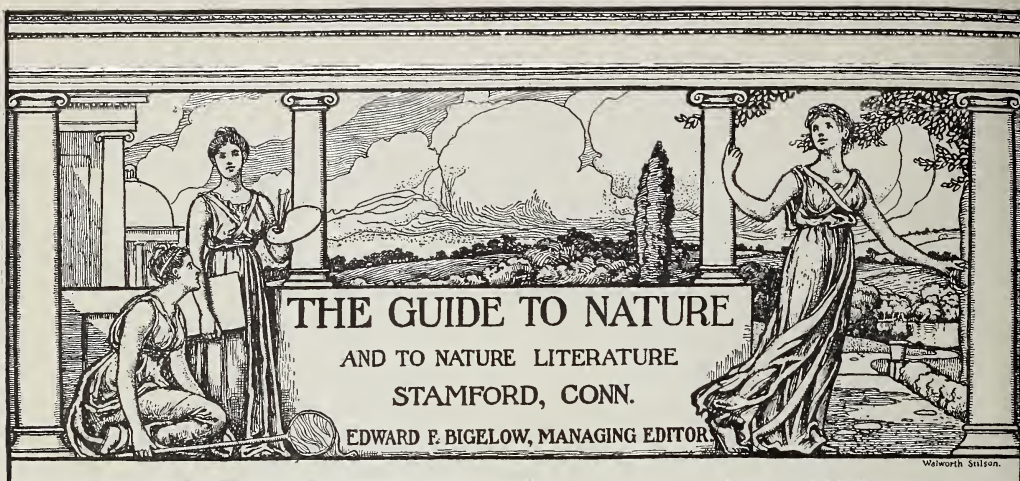
Bee-men are certainly behind the times if they can afford to use them and do not.—M. H. Mendleson, Ventura, Cal.

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